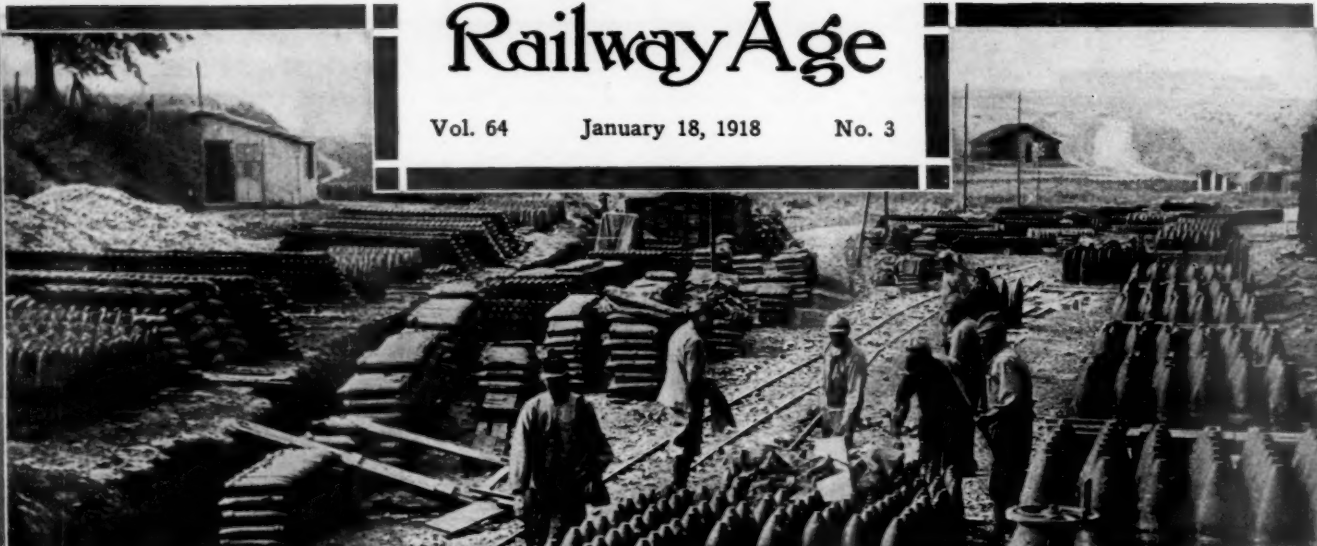


Railway Age

Vol. 64

January 18, 1918

No. 3



A Light Railway Keeps This Depot Supplied. Central News Photo.

Contents

Running the Railroads Under the New Regime 153

"Freight Movement Week" Handicapped by Severe Weather. Many Troublesome Problems Confront Director General McAdoo.

How Will the Railroad Securities Be Affected? 159

An Interesting Analysis of the Trend of Prices of Railroad Stocks Following the President's Proclamation Taking Over the Railroads.

Methods of Loading Lumber in Open Top Cars 163

Traffic Is Seriously Delayed Because of the Lading Shifting in Transit. It Is Imperative that the Rules for Loading Such Material Be Revised.

EDITORIALS

Rules For Loading Lumber.....	147
The Future of the Railways.....	147
Lord Shaughnessy's Warning.....	148
The Trespassing Evil.....	148
The Freight Car Situation.....	149
New Books.....	150

LETTERS TO THE EDITOR

A Correction—Julius H. Parmelee.....	150
The Problem of Depreciation—J. M. Clerk.....	150
Curses and Courtesy.....	152
Not a Consolation Prize in this Case!.....	152

GENERAL ARTICLES

*Running the Railroads Under the New Regime.....	153
Train Accidents in December.....	157

GENERAL ARTICLES (Continued)

*How Will the Railroad Securities Be Affected?.....	159
Tests of Manganese Steel Rails.....	162
*Methods of Storing Lumber in Open-Top Cars.....	163
Tests of Slag Concrete.....	165
*Average Net Operating Income for Years 1915, 1916 and 1917.....	166
Freight Operations for October.....	169
The Railways of Great Britain After the War.....	169
*Senate and House Committee Railroad Hearings.....	171
Solidification as a Factor in Railway Valuation—B. M. Taylor.....	176
*Locomotive Feed Water Heating.....	177

GENERAL NEWS SECTION..... 180

* Illustrated.

Alphabetical Index to Advertisements, page 5. Directory of Advertisers, page 6.

Simmons-Boardman Publishing Company, Woolworth Building, New York

EDWARD A. SIMMONS, *Pres.* L. B. SHERMAN, *Vice-Pres.* HENRY LEE, *Vice-Pres & Treas.* M. H. WIUM, *Secretary.*
CHICAGO: Transportation Building. CLEVELAND: Citizens Building. WASHINGTON: Home Life Building.

Editorial Staff

SAMUEL O. DUNN, *Editor.*
ROY V. WRIGHT, *Managing Editor.*

W. E. HOOPER	C. B. PECK	K. E. KELLENBERGER
E. T. HOWSON	W. S. LACHER	A. G. OEHLE
B. B. ADAMS	J. G. LITTLE	F. W. KRAEGER
H. F. LANE	A. F. STUEBING	G. L. LACHER
R. E. THAYER	C. W. FOSS	E. T. OWENS

Entered at the Post Office at New York, N. Y., as mail matter of the second class.

The Railway Age is a member of the Associated Business Papers

Subscriptions, including 52 regular weekly issues and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free: United States and Mexico, \$5.00; Canada, \$6.00; Foreign Countries (excepting daily editions), \$8.00; single copies, 15 cents each.

WE GUARANTEE, that of this issue 9,606 copies were printed; that of these 9,606 copies 7,583 were mailed to regular paid subscribers, 185 were provided for counter and news companies' sales, 812 were mailed to advertisers, 880 were mailed to exchanges and correspondents, and 146 were provided for new subscriptions, samples, copies lost in the mail and office use; that the total copies printed this year to date were 28,818, an average of 9,606 copies a week.

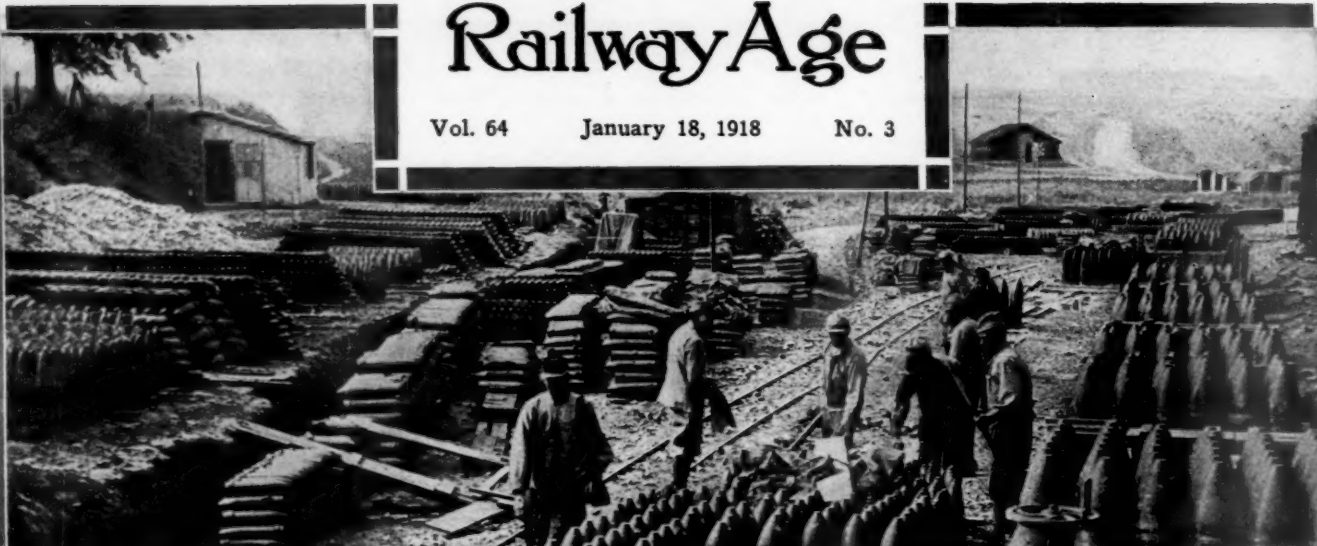
(A. B. P.) and of the Audit Bureau of Circulation (A. B. C.)

Railway Age

Vol. 64

January 18, 1918

No. 3



A Light Railway Keeps This Depot Supplied. Central News Photo.

Contents

Running the Railroads Under the New Regime 153

"Freight Movement Week" Handicapped by Severe Weather. Many Troublesome Problems Confront Director General McAdoo.

How Will the Railroad Securities Be Affected? 159

An Interesting Analysis of the Trend of Prices of Railroad Stocks Following the President's Proclamation Taking Over the Railroads.

Methods of Loading Lumber in Open Top Cars 163

Traffic Is Seriously Delayed Because of the Lading Shifting in Transit. It Is Imperative that the Rules for Loading Such Material Be Revised.

EDITORIALS

Rules For Loading Lumber.....	147
The Future of the Railways.....	147
Lord Shaughnessy's Warning.....	148
The Trespassing Evil.....	148
The Freight Car Situation.....	149
New Books.....	150

LETTERS TO THE EDITOR

A Correction—Julius H. Parmelee.....	150
The Problem of Depreciation—J. M. Clerk.....	150
Curses and Courtesy.....	152
Not a Consolation Prize in this Case!.....	152

GENERAL ARTICLES

*Running the Railroads Under the New Regime.....	153
Train Accidents in December.....	157

GENERAL ARTICLES (Continued)

*How Will the Railroad Securities Be Affected?.....	159
Tests of Manganese Steel Rails.....	162
*Methods of Storing Lumber in Open-Top Cars.....	163
Tests of Slag Concrete.....	165
*Average Net Operating Income for Years 1915, 1916 and 1917.....	166
Freight Operations for October.....	169
The Railways of Great Britain After the War.....	169
*Senate and House Committee Railroad Hearings.....	171
Solidification as a Factor in Railway Valuation—B. M. Taylor.....	176
*Locomotive Feed Water Heating.....	177

GENERAL NEWS SECTION..... 180

* Illustrated.

Alphabetical Index to Advertisements, page 5. Directory of Advertisers, page 6.

Simmons-Boardman Publishing Company, Woolworth Building, New York

EDWARD A. SIMMONS, Pres. L. B. SHERMAN, Vice-Pres. HENRY LEE, Vice-Pres & Treas. M. H. WIUM, Secretary.
CHICAGO: Transportation Building. CLEVELAND: Citizens Building. WASHINGTON: Home Life Building.

Editorial Staff

SAMUEL O. DUNN, Editor.
ROY V. WRIGHT, Managing Editor.

W. E. HOOPER	C. B. PECK	K. E. KELLENBERGER
E. T. HOWSON	W. S. LACHER	A. G. OEHLE
B. B. ADAMS	J. G. LITTLE	F. W. KRAEGER
H. F. LANE	A. F. STUEBING	G. L. LACHER
R. E. THAYER	C. W. FOSS	E. T. OWENS

Entered at the Post Office at New York, N. Y., as mail matter of the second class.

The Railway Age is a member of the Associated Business Papers

Subscriptions, including 52 regular weekly issues and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free: United States and Mexico, \$5.00; Canada, \$6.00; Foreign Countries (excepting daily editions), \$8.00; single copies, 15 cents each.

WE GUARANTEE, that of this issue 9,606 copies were printed; that of these 9,606 copies 7,583 were mailed to regular paid subscribers, 185 were provided for counter and news companies' sales, 812 were mailed to advertisers, 880 were mailed to exchanges and correspondents, and 146 were provided for new subscriptions, samples, copies lost in the mail and office use; that the total copies printed this year to date were 28,818, an average of 9,606 copies a week.

(A. B. P.) and of the Audit Bureau of Circulation (A. B. C.)

EDITORIAL

Railway Age

An article on the loading of lumber in open top cars will be found on another page of this issue which merits the attention of all railroad men interested in increasing the efficiency of the transportation system. The present methods of loading lumber result in serious losses on account of the frequent shifting of lading in transit. The expense involved, though very large, is widely distributed and for that reason few people realize the magnitude of the waste. Some of the roads which handle a great amount of lumber in open top cars have taken measures to correct these conditions. By bulkheading cars with lumber the shifting and consequent delays in transit have been greatly reduced. That a large saving can be effected by this method is beyond question and the universal adoption of the practice is highly desirable. The majority of lumber shippers will not bulkhead their cars unless they are required to do so, for while bulkheading might prove advantageous to the shipper by insuring earlier delivery, it is more expensive than the standard method of loading. The shippers do not seem to object to the plan on account of the greater amount of lumber which must be used in the bulkhead, but their principal contention has been that the present dunnage allowance is too small to cover the weight of lumber required for the bulkhead and stakes. Since there is no question that the railroads would be benefited by the universal adoption of the practice of bulkheading open top cars loaded with lumber, and slight concessions would be sufficient to overcome the objection of the shippers, it would seem that the logical thing to do to secure the advantages of this method is to modify the M. C. B. loading rules to make the bulkheading of open top cars loaded with lumber mandatory, and to increase the dunnage allowance on cars so loaded to compensate the shippers for the extra expense which this practice involves.

Rules for Loading Lumber

ing of lading in transit. The expense involved, though very large, is widely distributed and for that reason few people realize the magnitude of the waste. Some of the roads which handle a great amount of lumber in open top cars have taken measures to correct these conditions. By bulkheading cars with lumber the shifting and consequent delays in transit have been greatly reduced. That a large saving can be effected by this method is beyond question and the universal adoption of the practice is highly desirable. The majority of lumber shippers will not bulkhead their cars unless they are required to do so, for while bulkheading might prove advantageous to the shipper by insuring earlier delivery, it is more expensive than the standard method of loading. The shippers do not seem to object to the plan on account of the greater amount of lumber which must be used in the bulkhead, but their principal contention has been that the present dunnage allowance is too small to cover the weight of lumber required for the bulkhead and stakes. Since there is no question that the railroads would be benefited by the universal adoption of the practice of bulkheading open top cars loaded with lumber, and slight concessions would be sufficient to overcome the objection of the shippers, it would seem that the logical thing to do to secure the advantages of this method is to modify the M. C. B. loading rules to make the bulkheading of open top cars loaded with lumber mandatory, and to increase the dunnage allowance on cars so loaded to compensate the shippers for the extra expense which this practice involves.

The Future of the Railways

THE future of our railways, has been made more uncertain than ever by the adoption of government control. The utterances of President Wilson regarding their taking over and most of the provisions of the Administration's bill for their control and financing seem to contemplate their return to their present owners at the end of the war. Furthermore, while government control suspends the operation of the Sherman anti-trust law and the anti-pooling law, there has been no proposal made that they be repealed. If they remain on the statute books competition must be resumed as soon as the railways are returned to their owners.

There are, however, several important reasons for doubting whether either the old system of regulation or the old system of management will be revived. While the repeal of the Sherman anti-trust law and the anti-pooling law is not at present being discussed, a revolution apparently has occurred in the attitude of public men and the public generally, toward railroad competition. The sentiment for competition seems suddenly to have given way to a sentiment for "co-operation" and "co-ordination." Again, Section 13 of the Administration's bill provides that federal control "shall continue for and during the period of the war and until

Congress shall thereafter order otherwise." Those who drafted the bill seem to have provided for an indefinite continuance of control with the idea that some radical changes in railroad ownership as well as management might be desirable after the war and that the government should hold the properties while these were under consideration.

There clearly is a growing belief among both railway men and public men that it is undesirable that either the old system of regulation or the old system of management shall be restored. For many years the railways had been trying to eliminate wasteful competition by pools, by traffic agreements and by mergers. For over thirty years regulation defeated every effort of this kind. The result was that in every territory there were "weak" and "strong" railways operating side by side. The competition in service between the railways in each region was severe and caused many discriminations and wastes. Furthermore, it was impracticable for the regulating authorities to adopt any scale of rates which would be fair and satisfactory to both the "weak" and "strong" roads, or which would not be either regarded by part of the public as too low because it made the poor railways poorer or be regarded by another part of the public as too high because it made the rich railways richer. Probably in the natural course of events combinations between parallel railways would have wiped out the distinction between weak and strong lines; but natural tendencies were constantly defeated by laws to enforce competition.

While most railway men, regulating officers, business men and statesmen would agree that the old system was unsatisfactory, they would disagree widely as to what system should be adopted in its place after the war. Probably a majority of them would say that government ownership and management should be avoided if possible, but many would also say it is at least as likely that government ownership will be adopted as that we shall return to the old system of regulation and management.

Never in its history was this country confronted by an economic and political problem more important than the railway problem as it now presents itself. Few wish to return after the war to the old system, and not many really want to see the adoption of government ownership. In order that we may escape both there must be worked out some plan which will appeal to the public as combining most of the advantages both of the old system of regulation and management and of government ownership and management, while being free from the disadvantages and dangers of both. Is there not enough constructive statesmanship in this country to work out and to secure the adoption of some such plan?

The *Railway Age* believes that some of the fundamental principles, on which any plan that will solve the problem must be based, already are evident. First, it would seem, such a plan must provide in some way for the elimination of unnecessary competition, and this can be best accomplished by the reorganization of the railways along regional lines. Second, such a plan must include private ownership with government guarantees of minimum net returns. Only through private ownership can the political evils and the inefficient management of government ownership be avoided; but there must be guarantees of net return because experience has indicated that in the absence of such guarantees it will be impossible to get regulating bodies to allow ade-

quate net returns. Third, if there are to be government guarantees the government must have a direct voice in the management. This could be given it by empowering it to appoint part of the directors of the regional railroad companies. Fourth, there must be pooling of facilities in so far as such pooling will promote efficiency. The pooling of tracks, terminals, etc., as far as was advantageous, would be secured by reorganizing the railways along regional lines; and the pooling of equipment as far as was desirable could be secured by the organization of an equipment company, the stock of which should be owned by the regional companies and which should distribute equipment over the lines of all the railways in proportion to their needs.

Any plan for the reorganization of the railroads which may be offered now will, of course, be subject to important modifications as discussion may disclose its weaknesses from the railroad or the public point of view. It is, however, the duty of railway men, public men and the public to recognize the fact that the railways are now drifting toward some unknown goal. Unless with wisdom and patriotism they are taken in hand and steered in the direction it is desirable for them to go, they may arrive at some port where few want them to arrive and where it will be destructive of the interests of their owners, their employees and the public for them to arrive.

There has been manifested a deplorable want of constructive statesmanship in the handling of the railway problem in the past. This want has been manifested both by railway officers and by public men. If it continues to be manifested the economic and political consequences will be most serious.

Lord Shaughnessy's Warning

LORD SHAUGHNESSY, chairman and president of the Canadian Pacific, deprecates government control of railroads in the United States. Extracts from a statement recently made public by him were published in the *Railway Age* for January 11, page 128. He says that the people of the United States are "looking too hopefully to the centralized effort of an overworked government when they should depend more on the trained enterprise of the individual industrial units that have been so efficiently developed during times of peace. Any form of control that will lessen the sense of keenness and responsibility on the part of these units is sure to be disastrous in its results."

Government control in the United States is now an established fact. But it is not too late to take to heart Lord Shaughnessy's warning about the danger of excessive centralization. The warning comes from the head of a railway system having the largest mileage, and operating over the largest area, of any system on the North American continent. In view of his long experience in managing such an immense system, he might be expected to speak of the advantages of operating a large mileage as a single system. It is significant that it is to the dangers rather than the advantages of such operation that he directs attention.

The railways of the United States have twenty times as much mileage as the Canadian Pacific. Therefore, the consequences of excessive centralization of control of management on our railways would be something like twenty times as serious as the consequence of excessive centralization of control of management on the Canadian Pacific. The central authority can and should indicate the *general* principles on which the railways are to be managed; it can and should indicate the *general* methods by which these principles are to be carried out; and it can check up the managements of the various large units into which the system is divided and make such changes in their organizations as may be necessary to see that its instructions regarding general principles

and methods are carried out. But the day on which the controlling authority begins to try to do more than this, on that day the managements of all the large units inevitably and necessarily will begin to look to it for detailed instructions and to delay issuing important instructions to their subordinates until they get their instructions from above. When that comes, centralized control will slow down everything instead of speeding up everything; and the increases of efficiency gained by eliminating competition will become small compared with the losses of efficiency caused by impairing the initiative and "lessening the sense of keenness and responsibility on the part of the units."

It should hardly be necessary to say that the foregoing is not intended as a description of what already has occurred on the railways of the United States. It is intended only as a description of what inevitably will occur under any system of centralized control which does not leave large autonomy and great freedom of action to the managements of the various groups of railways and of individual railways.

With reference to the problem that would be presented by consolidation of all the railways of this country under government ownership, it recently was said elsewhere, before the present government control was adopted:

"The problem of developing and working an organization which would centralize authority enough to co-ordinate all parts of this vast system, and which would at the same time decentralize authority sufficiently to enable each part to cope with local conditions and needs, would be the biggest and hardest industrial problem ever presented to the genius and energy of man. Therefore, even though the best judgment and ability of the country were enlisted and allowed to carry on the business without any political or other vitiating form of interference, it is questionable if the advantages which would be gained by consolidation would not be outweighed by disadvantages arising from the unwieldy magnitude of the undertaking."⁽¹⁾

The problem stated in this quotation is the one Director General McAdoo and his advisers are now actually wrestling with. They are grappling with it under conditions far more favorable to its solution than would exist under government ownership because they actually are doing so—thus far at least—without any political or other "vitiating form of interference," and because some of "the best judgment and ability of the country" are enlisted.

It will be most interesting and instructive to observe what success they will have in securing needed co-ordination of the operation of the railways while avoiding excessive centralization of direction, with its paralyzing effects.

The Trespassing Evil

THOSE RAILROAD and public service commissioners who, at the Washington convention (see *Railway Age Gazette*, October 19, page 695, and November 2, page 804), voted down the proposal of the Walker committee to have a federal law to punish trespassers on railroad tracks, acted, no doubt, under a sense of public duty: but that discussion and vote marked no progress, and the problem still presses; and the honorable commissioners have a pressing duty, at home, to put forth some vigorous efforts for the enactment of adequate state laws on this subject. One can readily understand the feeling of local pride, or jealousy, or laudable support of States' Rights, which may impel a commissioner to object to federal encroachment on his prerogatives; but such negative action as that at Washington does more harm than good. The crying need is for positive action. State commissioners have a peculiar

⁽¹⁾ Yale Review, January, 1918, article on "Railways in Peace and War," page 371.

and solemn duty in this matter. Most of the legislators who ought to bestir themselves and draft suitable statutes to cure the evil are too much engaged in other matters to do anything effective; while the commissioners are, or should be, specially qualified to advise, enlighten, and even push, the legislatures. The commissioners are where they can survey the situation throughout the whole country all of the time, and they must be aware of the seriousness of the problem. There is no glory in this work, for the whole public seems to be satisfied to let careless pedestrians go on killing themselves on the tracks at the rate of five thousand a year; but that is all the more reason why a truly devoted public servant should take up the task; other and more spectacular reforms will find promoters, easily, among people not informed concerning this one.

The commissioners' committee characterizes the conditions as disgraceful; and everybody acquainted with the facts knows that this is true. Only one-fourth of the states have laws designed to suppress trespassing, and those few do not enforce them; at least, they have nothing encouraging to report concerning enforcement. Surveying the country as a whole, the committee says that there is a lack of respect for railroad premises and property, and that this is a deep-seated feeling of many years' standing; and along with this there are people everywhere who seem to believe that anti-trespassing laws have been framed to favor the railroad, rather than to protect careless pedestrians; a belief rooted, no doubt, in the old suspicion that "capital" is always abusing the poor. The final conclusion of the committee's rehearsal of facts is that the outlook is discouraging—which no one can deny.

The cheerful aspect of the situation is that a considerable amount of good work has been done in spite of the discouragements. Many of the larger railroads keep up a vigorous fight, in spite of municipal indifference. With any sort of co-operation on the part of sheriffs and police these railroad activities would soon show tangible results. If the railroads continue to aid and instruct, and enrich, the farmers as they have been doing for the past few years, it may be that after a while people will begin to credit railway officers now and then with a modicum of public spirit. The New York Central, by its vigorous prosecutions of tramps a year or two ago, reduced the annual average number of accidents to trespassers 19 per cent. Other roads in the more thickly settled parts of the country have also done good work. It is real work, however; costly and difficult. The Central's officers spent a prodigious amount of time, energy and patience in arousing the local magistrates. The lethargy or ignorance of these officers is one of the greatest obstacles everywhere. New York State, at last, has simplified its law so that the punishment of trespassers will be greatly facilitated; and the Central may be expected to do still greater things. Depending, as we have to, on railroad enterprise instead of state enterprise, it may be said that the Central now has before it the task of extending to the six other states traversed by its lines the profitable gospel of safety which it has been spreading in New York!

The Walker committee made one recommendation that was endorsed by the convention; that the campaign of publicity, designed to convince thoughtless persons of the dangers of trespassing, be continued. That is good as far as it goes; but the publicity that will be most likely to count is that which can be engineered by well-informed public service commissioners, addressing themselves to the men who are primarily responsible—the legislators. The committee said that commissioners should "lose no opportunity to point out" the merits of anti-trespassing laws; and it is among legislators that the most useful opportunities can be found. This is a progressive movement which, unlike many others just now, need not be seriously retarded because of the pressure of war-time problems.

The Freight Car Situation

THE PROBLEM OF REPAIRING freight cars is one of the most serious now confronting the railroads. During 1916 and the early months of 1917, the roads succeeded in making a material reduction in the number of bad order cars. There has been little change in the situation since April, 1917, however. The percentage of cars in shop or awaiting shop has remained practically unchanged at from 5.8 to 6.0 per cent of the total, although the railroads have been making great efforts to keep cars in serviceable condition.

This failure to reduce the percentage of bad orders is due to several causes. The mileage per car per day and the tonnage handled per loaded car have both increased greatly during the past two years. This increase in the service secured from equipment necessarily makes cars wear out faster than usual and more than the ordinary amount of repairs are needed to keep this equipment in good condition.

The repairing of cars is made unusually difficult under present conditions. Few new freight cars have been received during the past two years, and all the old equipment which the roads owned has been put into service, even though it is of obsolete construction and under modern operating conditions requires frequent overhauling. Furthermore, the percentage of foreign cars which the roads have been handling has increased, thus making it necessary for the car repairers to do a larger share of their work on cars with whose construction they are not familiar. As might be expected under these conditions, the number of foreign bad order cars in recent months has been much greater than for the corresponding month of the previous year, the increase in some cases is as great as 20 per cent.

The only way to meet the demand for cars is to keep the available equipment in serviceable condition. This is no easy task. There is a very strong temptation to pass by the minor defects when cars are on the repair track in order to increase the number of cars turned out. Interchange inspectors, who are best qualified to judge the situation, agree that the general condition of cars at this time is far below the average. The condition of cars which have been off the home road for some time is, in many cases, extremely bad.

With labor and material both hard to get it is natural that the foremen in charge of the shops should pay less attention to the repairing of foreign cars. The cars of the home road are given preference, and too often the foreign car receives just enough repairs to get it safely onto the line of some connecting road. After it has made a few hundred miles it is again ready for the repair track.

In routing cars under government operation, probably less regard than ever before will be paid to ownership. This will result in a greater proportion of foreign cars on all roads. Unless these cars are handled promptly when they need repairs, the number of bad orders is bound to increase. Consideration of profit or loss should no longer enter into the question of making repairs. The important matter is keeping the car in service. Whenever satisfactory repairs can be made with material on hand, it should be applied, even though it is not standard to the car. That it is possible in nearly every case to repair cars without calling on the owner to furnish material is shown by the record of one shop which repaired 12,049 foreign cars and ordered material from the owners for only 11.

Roads that are following the practice of slighting repairs to foreign cars should realize that such a procedure will inevitably result in rapid deterioration of equipment. The surest way to keep the cost of maintenance down is to make light repairs as soon as they are needed. If this is not done,

the car is certain to require an abnormally large amount of work when it is shopped.

A reduction in the percentage of bad order cars cannot be secured by any system that attempts to shift the burden to some other road. Two things are needed to improve the car situation. First, a disregard of the petty considerations that delay repairs to foreign cars, and second, good, thorough repairing applied as soon as the car develops defects. The object of the repair track foreman should not be merely to get the cars back into service, but to put them in condition to handle traffic and stay off the repair track.

New Books

Seasoning of Wood. By Joseph B. Wagner. 274 pages, illustrated, 6 in. by 9 in. Bound in cloth. Published by D. Van Nostrand Co., 25 Park Place, New York. Price, \$3.

The book considers seasoning both in air and in kilns. The first two-fifths of it is devoted to a general treatment of the subject of timber, including two brief chapters on general characteristics and some 70 pages in cataloguing the various species. Wood destroying insects, which work on wood in the air, either in the tree or in the structure, are also given some space. In the treatment of seasoning, proper attention is devoted to the relation of the properties of wood, moisture, content, the influence of evaporation or manner of drying and to a discussion of the advantages of seasoning.

The construction, arrangement and operation of kilns of various kinds and various devices and forms of apparatus used in kiln drying are given detailed treatment.

Business Law for Engineers. By C. Frank Allen, formerly professor of railroad engineering, Massachusetts Institute of Technology. 6 in. by 9 in., 457 pages. Bound in cloth. Published by McGraw-Hill Book Company, Inc., 230 West Thirty-ninth St., New York. Price, \$3.

The book is divided into two parts, one entitled "Elements of Law for Engineers" and the second called "Contract Letting." The first part may be compared favorably with the familiar texts on commercial law, designed for the use of the layman, except that the material is arranged in this case for the special benefit of the engineer rather than the business man. Otherwise the arrangement is much the same with chapters covering the familiar subjects of torts, equity, real property, agency, etc. As illustrating the supplementary material for engineers the chapter on real property covers the acquirement of land for engineering projects, eminent domain, the law of land surveying, etc. There are also two chapters of special significance to engineers and railway men, namely, "Railroads" and "Engineer's Relations with Others."

The first of these touches on the legal phases of railway location, maintenance and operation and deals briefly with the legal status of the common carrier. The up-to-date character of the book is indicated by the fact that mention is made of the Adamson law. The second part of this book covers the same general ground as previous texts on engineering and construction contracts. The subject is treated largely through the presentation of specimen forms for all phases of contracts, such forms including the uniform general contract of the American Railway Engineering Association, and the Standard Form of the American Institute of Architects. As the author states in his preface, the book is not intended to make every man his own lawyer, but it will be a valuable addition to the library of any engineer.

Letters to the Editor

A Correction

WASHINGTON, D. C.

TO THE EDITOR:

May I call your attention to two typographical errors in the article appearing in your current number from my pen entitled, "The Basis of Compensation for the Railways"?

The last sentence in the last paragraph on page 127, as printed, read "Another element for harm is represented by charges in per diem rates." The word "charges" should have been "changes." I was referring to the fact that changes in per diem rates during the three-year test period or at any future time during the period of government control would tend to throw out the relation of road with road in the scheme of government compensation.

The other error appears at the top of page 128, in the first sentence reading "Furthermore, it is of great importance whether hire-of-equipment accounts are actually maintained between the carriers during the period of government control or not, even though for purposes of record it might be considered advisable to do so." The word "not" is left out of the sentence after the word "is." The sentence should have read, "Furthermore, it is *not* of great importance," etc. My thought there was that the keeping of hire of equipment accounts between the carriers would, under government control, be largely a matter of policy and expediency rather than of necessity.

JULIUS H. PARMELEE.

The Problem of Depreciation

UNIVERSITY OF CHICAGO.

TO THE EDITOR:

G. C. Hand's article on depreciation in your issue of December 7 is ingenious, but I fear it makes more for confusion than for clearness on the fundamental issues involved. His argument is deductive and his conclusion is contained in his assumptions as to the meaning of value. When Mr. Hand takes up the *a priori* logic which is the favorite weapon of the closet theorist, he must remember that the structure is no stronger than its foundation assumptions and that his foundation is itself unsupported. He also gives the theorist a chance to turn the tables on the practical man by remarking that his logic does not touch the practical needs of the case. This chance is too good to be missed; so let me say, as a specialist in *a priori* closet theory, that the final logic of this case is pragmatic, not *a priori*, and that the system that will work and be equitable cannot be deduced from definitions of terms.

Mr. Hand assumes that "depreciation is the subsidence of value," that: "The value of a railroad is the present worth of the . . . net revenue . . . funded at the prevailing rate of commercial profit," and that: "Value is unique." These three propositions contain his entire case against physical valuation and against the calculation of depreciation accrued but not matured. The answer is: If value is unique, and means what Mr. Hand proposes, then "valuations" for accounting and regulation are not and cannot be, strictly speaking, value, but something else. Hence we get nowhere by first assuming that they ought to be value and then criticising them because they are not. If valuations for accounting, regulation, condemnation, etc., are all "values," then value is not unique.

Is it true that, since value is earning-power capitalized, therefore valuations for purposes of regulation must adopt this principle? Need I repeat the familiar demonstration that on that basis any existing set of rates is automatically justified: Including any set fixed by a commission, once it gets into operation? The earnings themselves create the value which proves that, on the basis of that value, the earnings are neither unreasonably high nor unreasonably low.

The solution is simple, if one takes as his point of departure, not a doubtful verbal definition, but a proposition of legal and economic force. This proposition is that the right to regulate is genuine and that the legal doctrine means something when it requires that public service rates shall be reasonable. No court will knowingly hold that doctrine meaningless, though if they adopted Mr. Hand's use of terms they would get this result indirectly. If the requirement of reasonable rates means anything it means that rates might be unreasonable in the absence of regulation, and that such rates may be changed to make them reasonable. This involves necessarily the power to *change the commercial value* that results from the rates, to make it fair, since fair value is that which results from fair rates. Some few court decisions may seem to contradict this, but if they really do so they cannot stand when once it is clearly shown that they would nullify that power to regulate which the courts have regularly upheld. The court's function here is to limit, not to nullify. The law implies that there may be an unreasonable present value resulting from present earnings and a reasonable or fair value different from the present value. It is this fair value, not the actual value, which regulating authorities must leave to the companies.

What is the value which the companies actually are granted under regulation? Those who argue for commercial value as a basis for rate-making assume that the "*valuation*" on which rates are based is the "*value*" which the company is allowed. In so doing, they fall into the very inconsistency they are criticising. Those who base their case on the claim that value means earning power capitalized, and nothing else, should stick to their definition. Their proper quarrel is with the value that results from the earnings actually allowed, funded at the prevailing commercial rate; no matter whether the earnings were allowed in the shape of a strict return on a liberal capital sum or a liberal return on a strict capital sum. And if they object to the value allowed, as so measured, they must object to it as being unfair, not as being something else than value. Again we see that a question of equity cannot be settled or conjured away by deductions from the meaning of words.

A commission may if it chooses try to gage the rate of return so that the commercial value resulting from the rates allowed will come as near as possible to the valuation used as a basis for the calculation. In this case, the valuation must cover the entire "*fair value*," and include all allowances for intangibles. This method is not well-suited to the case of railways, though it may work well with municipal utilities that have no competition at all. Rates on different railway lines are interdependent, so that some roads will get rich on the rates that must needs be allowed if the poorest are to earn a commercial return on investment. It is not wise to incorporate this difference in the valuation that is used as a basis of rate-making, for it is an uncertain thing and may vanish with a change in management, leaving the investor in a formerly prosperous road with a claim in equity for earnings enough to make his stock worth more than it can be worth at rates that would be fair to the public.

A better way is to make no attempt to include this earnings-value in full in the valuation of every road, but to let it come to the owner through the capitalized value of the earnings that are allowed. The market will not fail to give the best managed road a greater value in proportion to its

greater profitability, no matter by what mathematical process the rates were calculated. A road that can earn ten per cent on its actual outlay in investment will be worth more than the sum of that investment outlay, and the excess is an intangible value allowed by the rate-regulating authority, regardless of whether it took bare investment or some other standard as the basis of its calculation.

The simplest way in such a case is to compute the investment properly made by the company to produce the existing property used and useful in the service of the public, including intangibles on a cost or investment basis, and to allow rates which will yield a commercial return on this sum to roads located and managed with a reasonable minimum of efficiency. Some roads will earn less. Other roads will earn more, and in so doing will receive an "*intangible value*" beyond the amounts allowed in the "*valuation*," though this valuation will not be value in the commercial sense, nor even "*fair value*," but a record of investment. And this is, after all, the important thing in guiding a rate-fixing policy. To secure needed capital in competition with the attractions offered elsewhere, the decisive thing is the rate of return which the capital actually invested is allowed to earn. A policy based intelligently on this standard would work. It would probably require that the issuance of securities be managed in harmony with the policy of rate control, and would probably call for a relaxing of the more extreme laws against "*stock watering*," coupled with recognition that par value and valuation for rate control are not the same thing.

This brings us to the subject of depreciation. Depreciation of physical property is an accounting fact, and it is good accounting practice to record the state of the investment so that it can be clearly seen, and not to sacrifice this investment record to any record that may be kept of the commercial value of the going concern. If two properties each represent an original investment of a million dollars, but one must retire and replace one hundred thousand dollars' worth of property in the next two years and the other only fifty thousand dollars' worth, the investment in the first is more nearly used up than the investment in the second. The second may have the more profitable business, and be worth more as a going concern, even at the same rates, but that is a separate matter. The more depreciated conditions of the plant of the first road will, so far as it goes, reduce the commercial value due to the more profitable business. It seems desirable that the accounts should show the investment-difference between these two roads, and any method of treating depreciation which accomplishes this result fulfills its chief function.

Mr. Hand's system would not do this, and would be suited only to roads that so manage their finances that the need for replacements to maintain a given original investment falls with almost perfect uniformity from year to year—a wellnigh impossible task. Only in such a case could one argue as Mr. Hand does that, pending replacements should logically be treated like accrued interest and taxes. These are properly borne by the year's current income because they do recur regularly and not irregularly, like replacements.

If Mr. Hand's plan were to be followed consistently, either the book values of the assets could not be set down separately at all, or they would be continually fluctuating with changes in the volume of traffic, rates of wages and the state of the money market. This is not good accounting practice, for reasons unnecessary to state here.

When Mr. Hand says that value cannot be allocated to constituent elements, he goes far toward puncturing one far-reaching fallacy of valuation, viz.: That intangible values can be separately computed and then added to physical values. As he says, the whole is a joint product to which a franchise is absolutely necessary, together with customers and all the separate items of a complete physical equipment.

Each in turn is in a sense responsible for the whole value of the going concern. It follows that the sum of the parts thus calculated would be many times greater than the whole. This goes to show that regulation cannot be based on the actual values of the *parts* of the property of a company any more than on the actual value (as Mr. Hand uses the term) of the whole taken together. For this service Mr. Hand deserves the thanks of those interested in clear thinking on these matters.

To sum up: the basis of regulation and the basis of accounting are not "value" in the commercial sense, as he assumes, and his main thesis falls with this assumption on which it is based. If such questions as these could have been thrashed out earlier and a reasonably simple outcome arrived at, the present valuation of railways might have been made less expensive. The whole problem of "fair value," however, can never be simple.

J. M. CLERK,
Associate Professor of Economics.

Curses and Courtesy

CHICAGO.

TO THE EDITOR:

Ever since the inception of the "courtesy movement" on railroads, the periodicals of the country have been replete with articles on that subject, each one, perforce, meritorious because it constitutes an agitation toward a worthy end, if for no other reason. One and all of those that have come under my perusal have discoursed on the soft spoken word for the public, leaving the inference that the mask of courtesy may be donned or doffed at will.

With all due respect to the compelling power of the conscious mind and its facility for facing trying environment, we must award the palm to the subconscious mind for power of impulse—which actuates by far the most of our activities. Auto-suggestion, by means of conscious courteous effort, has a certain power, but the effort must be perfunctory as a general thing, if it springs from the will rather than from impulse.

A discussion of impulse carries us into the subject of heredity and its strongest ally or, mayhap, its strongest enemy, environment. We may run the entire gamut of human character and find all the tones of temperament due to heredity; tones that come with our entrance upon life's stage and for whose presence we are not responsible. Reflection reveals to us that these proclivities assert themselves most unexpectedly and our task is to align and sometimes repress them. It is not necessary to descend far down the classification of organisms until we come to those which are absolutely helpless before their inborn tendencies; their reflex actions are always and inexorably the same under a given set of circumstances and this is true no matter how painful is each experience. We are told by scientists, and we know *a fortiori* of its truth, that the continued existence and progress of any organism depend upon its power of adaptability toward its environment. Further, we see that man embodies the highest type of adaptability found in any organism. His power to act upon and set the scenery of his environment places him upon a pedestal far above the beasts of the field and the fowls of the air over which he was given dominion. Then, as the apostle Paul says, "Let us acquit ourselves like men."

We are born into the narrow room of heredity, but adaptability is the key that unlocks the door and permits an exit into a world of character progress.

But what has all this to do with the acquirement of a courteous manner, you may ask. Just this. Our powers of adaptability must be bent upon setting the stage for a continuous performance, a consistent environment, an aura of

gentility. A courtesy to the public is not the beginning of such an environment, it is more truly the end; for as surely as law is law, so sure is it true that the beginnings of our courtesy must be among ourselves. Can a justifiable rebuke, degenerated into a tirade of curses administered by a superintendent, for instance, to an engineer, be so dissolved that the superintendent can turn in the same hour and give an address before a commercial club with a courtesy and gentility which is convincing in its sincerity? Not often. The man who fell into the slough of curses is the selfsame man who speaks in the club room.

We railroad men, in practically every department of the business, must plead guilty to all too much of this brand of conduct. The conductor curses the engineer and fireman, is cursed in return, then turns to his ticket collecting and puts on a courteous attitude as "prescribed by the rules."

The agent curses at the way-freight crew for knocking an empty car "off spot" and in the same breath turns to sell a lengthy coupon ticket to a prospective purchaser, who from the window has heard his altercation with the train crew. How incongruous it must sound then to hear the agent dilate upon his road's being "the only way" or as providing the best of everything. Yet another scene: The train despatcher's office, a snow blockade, trains hours late; numerous ones of the public stray into the office to inquire about relatives or friends on snowbound trains which have no diner attached and no way to warm the cars; the despatcher's ability and patience are strained to the breaking point; enter a trainmaster, or an assistant superintendent and, seeing what he deems to be poor judgment being exercised in some detail of despatching, breaks forth into a stream of sarcasm, abuse and curses, within hearing or beyond—it is little difference—of the inquiring public. Do the words of such a man inspire the inquirers with confidence in him, respect for his business or satisfaction for the safety of the snowbound passengers? Plainly now, can a man be a Doctor Jekyll and Mr. Hyde and make a success of both? Man's inability to serve two masters was asserted by a wise teacher 1917 years ago. Have we not yet learned its import? He also said, "Woe unto you, vipers, hypocrites, for you cleanse the outside of the cup, but the inside is filled with all uncleanness." Let's all think of that when we turn from our notorious, mutual cursing and endeavor to put on our courtesy mask for public inspection.

NEMESIS.

Not a Consolation Prize in This Case!

NEW YORK CITY.

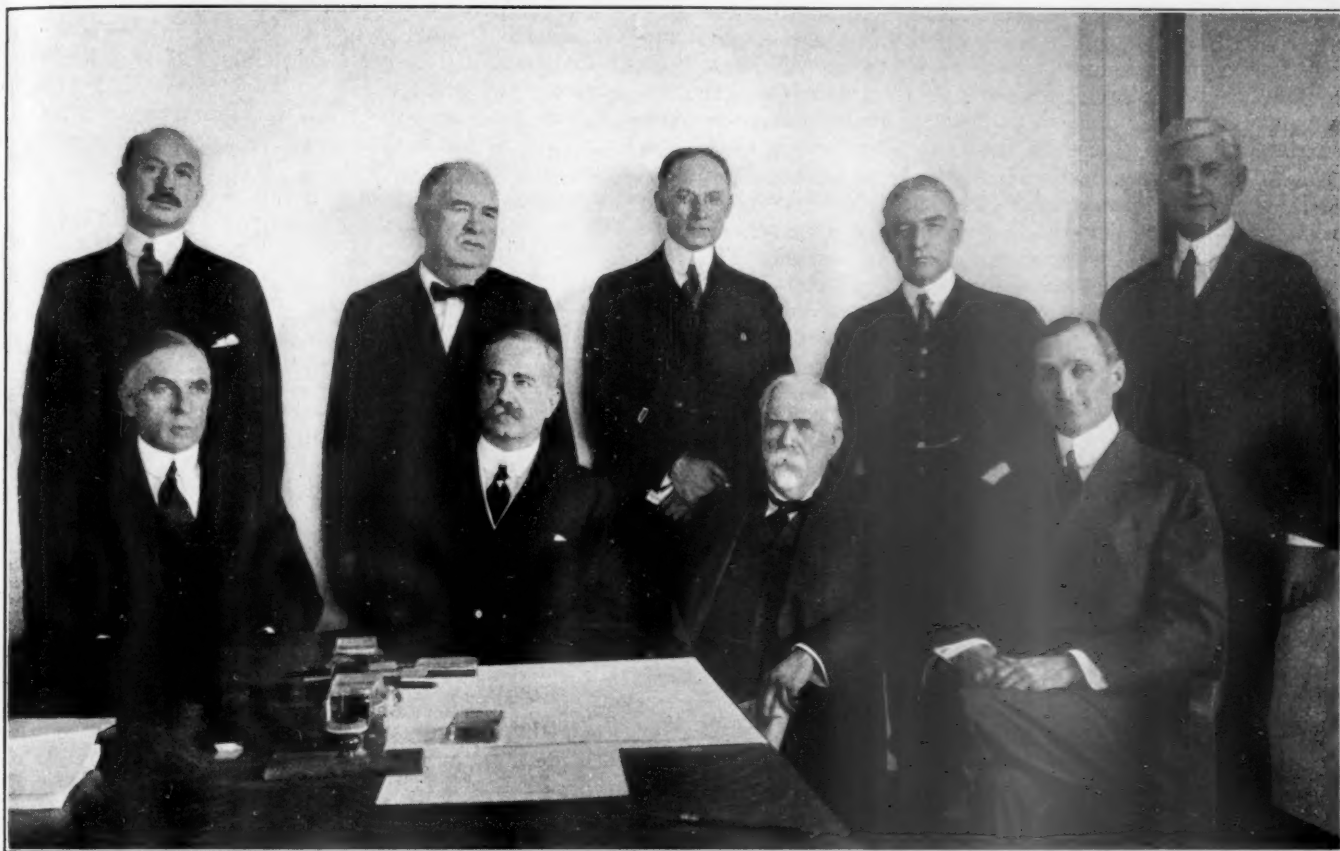
TO THE EDITOR:

May I say a word in commendation of the lowered price for the upper berth?

Years before the price was lowered I learned to use the upper berth because, for a girl traveling alone, it seemed a distinct advantage to be up and out of the way, and safe for the night. And now—well, I take peculiar pleasure in getting the thing I prefer at the preferable price!

S. D. W.

TUNNEL TO BE BUILT UNDER JAPANESE STRAIT.—The Japan Chronicle reports that influential citizens of Fukuoka, Kiushu, have undertaken a plan for the establishment of a company with \$7,228,250 capital for the purpose of making a railway tunnel under the Mogi Straits. The tunnel will start at Shimonoseki and end at Dairi, Fukuoka Prefecture, and it will be connected with the railway trunk line of Kiushu. The total length is put at 17,700 feet, of which 4,000 feet will be beneath the sea. Five years will be required to complete the whole project.



Director General McAdoo with the Members of His Advisory Board and Assistants.*

Running the Railroads Under the New Regime

Freight Moving Week. Status of the I. C. C. and the State Commissions. Wage Question. Mail Service

WASHINGTON, D. C.

THE PRINCIPAL WORK of the railway administration during the past week in the direction of improving transportation conditions was that directed from New York by A. H. Smith, Mr. McAdoo's assistant in charge of transportation on the eastern lines, who also came to Washington on Thursday and spent several hours in conference, reporting on conditions at the congested New York terminals and on the efforts to increase the movement of coal.

Freight Movement Week, officially designated by Director-General McAdoo, started on Monday throughout the country with many different agencies co-operating in an effort to make it a success, but bad climatic conditions threatening to seriously interfere with the work.

Reports from the middle west on Monday night were to the effect that the storm which has paralyzed that section for several days had begun to break, but there was no indication that even the normal movements of cars could begin for several days. Both snow and cold were interfering with the movement of traffic as far east as Pittsburgh. The snow did not reach beyond that point, but cold weather was being experienced east as far as the Atlantic Seaboard. Reports from New York, however, said that the temperature was moderat-

ing, and it was thought that trains could be speeded up appreciably early in the week.

Under the direction of the director-general, every effort was being made to increase the movement of traffic. Snow plows were being used throughout the middle western section, where snow drifts were interfering with train movements, and once the roads were cleared railway employees were making the greatest possible speed to get their trains to their destinations. The general order that went out from the director-general was that every possible means should be used to restore traffic conditions to their normal state as quickly as possible.

Despite the snow and cold, it was believed that a great deal of good would be accomplished during freight clearance week. Virtually every business organization and mayor in the United States indicated his desire to co-operate with the director-general in clearing up the situation, promising particularly to endeavor to keep new freight off the rails until the shipments now on hand reach their destination. Various governmental agencies outside of the director-general's office also are lending a helping hand. The Food and Fuel Administrations have sent out urgent pleas through all their agencies to keep new shipments off the road this week. So ready have been the responses to the director-general's widespread appeal for co-operation, that it was felt much of the congestion could be relieved if the weather moderated to any extent during the course of the week.

Thousands of telegrams have been received at the office of the director general from mayors of cities, business organ-

* From left to right, seated: A. H. Smith, president New York Central and assistant in charge of transportation, eastern lines; John Skelton Williams, comptroller of the currency; Henry Walters, chairman, Atlantic Coast Line; Director General W. G. McAdoo; standing: Hale Holden, president, Chicago, Burlington & Quincy; Edward Chambers, vice-president, Atchison, Topeka & Santa Fe; Walker D. Hines, chairman, Atchison, Topeka & Santa Fe; John Barton Payne, legal adviser, and Oscar E. Price, secretary to the director general.

izations, state governors and other leaders, promising full support for freight moving week. On the first day of next week the new increased demurrage rates will go into effect, and the clearance movement preceding is expected to save many thousands of dollars to shippers as well as assist the railroads in handling their big load.

To A. H. Smith, his assistant in charge of eastern lines, and R. H. Aishton, president of the Chicago & North Western, Director General McAdoo telegraphed on Sunday:

"I am very much distressed at the inconvenience and suffering the blizzard has brought to the people in the West and central West. The paralysis of railroad service is inevitable, but I should like you to use every possible means to overcome the situation and restore railroad service at the earliest possible moment."

Mr. Aishton's report read:

"Every means within our power is being used to restore normal railroad service, and particularly in the movement of coal. The greatest difficulty was experienced in Chicago and in a radius of about 250 miles, with Chicago as its center, where the severity of the storm of Friday last, following the very heavy snow and strong wind the previous Sunday, created a condition that has not been equalled in the history of this territory for over twenty years."

"All employees stuck to their tasks of keeping transportation moving as long as it was humanly possible to do so. Every available man was employed in the moving of snow, and very good progress was made yesterday and last night."

"Through passenger service and coal movement was resumed to a limited extent last night. Suburban service in the Chicago district was resumed with nearly normal operations in Chicago this morning. The greatest efforts are being directed to resume normal movement of coal. Very good success was obtained last night in placing coal in Chicago territory. Every man that can be spared from any other class of work is being used to remove snow from tracks in yards so that all transportation may be resumed at the earliest possible hour. You may feel assured nothing is being left undone by officers and employees to restore full normal transportation."

A. H. Smith telegraphed Director-General McAdoo on Monday as follows:

"Between Pittsburgh, Buffalo, Chicago and St. Louis there has been practically no freight movement for 24 hours. Practically the only passenger movements have been those incident to getting stalled passenger trains into terminals."

"Snow has drifted very heavily, packing in cars on side tracks and in yards, and it will take considerable time and much effort to get them loose. Temperature this morning at Pittsburgh and Buffalo still zero with extremely high winds. West of there weather has moderated. It has likewise moderated in New York and at other points east."

"The very low temperature with snow and high winds has produced a combination which is said to be worse than anything in the history of the railroads in the central west."

"Little freight, if any freight eastbound from Chicago and St. Louis today on account of conditions in yards. Efforts are being made to place coal to relieve fuel situation in central western cities. Everything being done with the help and power available to restore service at the earliest possible moment."

"In answer to your telegram you may be assured of the utmost efforts in this direction on the part of all concerned."

"Believe we should devote our attention to keeping people warm, moving food and coaling ships in the harbor, even if manufacturing industries close down for a few days until the effect of this storm can be cleared away and working room afforded."

"There are 118 ships in the harbor this morning awaiting coaling and 21 bunkered last 24 hours."

Later, Mr. McAdoo gave out the following statement:

"The director-general is in receipt of advice from A. H. Smith, assistant to the director-general at New York, that the weather conditions, which are more severe than experienced in 50 years, have crippled railroad transportation to such an extent that it is imperative to give preference at New York and vicinity to certain vitally essential commodities. He recommends that this order of preference be:

"First—Coal for domestic use and vital public utilities.

"Second—Food.

"Third—Coal for bunkering the ships now in New York harbor which are loaded for our armies abroad and for the Allies."

"The director-general has approved the recommendation with the expectation that the plan will be temporary only; that improving weather conditions will soon obviate its necessity, and that it will not materially affect industrial activity."

"This appears to be the shortest cut to a restoration of normal conditions. It is hoped, therefore, that everybody will co-operate by submitting as cheerfully as possible to the temporary inconveniences the plan may occasion, in order that it may be made in the highest degree effective and that prompt relief may be brought about."

Mr. McAdoo has announced that he expects to appoint other assistants in charge of various districts, just as Mr. Smith is in charge of transportation on the eastern roads. B. F. Bush, president of the Missouri Pacific, has been advising him on conditions at St. Louis. Mr. McAdoo has announced, however, that he will *not* appoint state directors of transportation.

Acting on a report from Hale Holden, assigned to make a special study of freight conditions in the District of Columbia, Mr. McAdoo sent a letter to A. W. Thompson, vice-president of the Washington Terminal Company, requesting him to arrange for the common use of the rail facilities in the district, in which he said:

"I inclose copy of letter which I have today written to Louis Brownlow relating to the local freight congestion in the district. It is of importance that these facilities be kept in efficient operation, and while the present situation appears to exist chiefly because consignees are unable or do not take away their freight as rapidly as should be, there are doubtless measures which can be taken to increase capacity by the railroads."

"I therefore request that you undertake at once to arrange for the common use of the rail facilities in the district, as far as may be wise, to increase efficiency in the use of them and see to it that sufficient switching power is maintained here at all times. The forces at the freight houses and in the administration of the facilities generally should be kept at all times adequate to serve the public and generally measures should be taken from time to time as necessary to keep the service abreast with the requirements of the public here. I shall be glad if you will report to me on the subject from time to time."

In another letter to one of the district commissioners Mr. McAdoo approved of a plan for a pooling of the use of drayage and trucking facilities in the district recommended by Mr. Holden, and pointed out that the main cause of the local congestion has been the delay on the part of consignees in removing freight from freight houses and team tracks.

On Tuesday Mr. McAdoo announced that he had relieved A. W. Thompson, vice-president of the Baltimore & Ohio, from his duties as vice-president of the Washington Terminal Company, in order that he might devote his attention to his own road, and appointed in his place G. R. Loyall, assistant vice-president of the Southern, whose office is in Washington and who is therefore in a better position to give attention to the local situation.

The Navy Department on request of Director General McAdoo sent a battleship to Baltimore to break the ice in

the harbor and to open the channel. Advice was received in the afternoon that the harbor had been opened and the battleship was proceeding down the bay with 15 loaded ships and barges which it released at Baltimore. There was three feet thickness of ice in the Baltimore harbor.

Thus far Mr. McAdoo has not reached a conclusion as to whether the express companies should be taken over by the Government. He has asked the Interstate Commerce Commission and his advisors for an opinion on the subject, but has felt that an immediate decision was not necessary because of his jurisdiction over the trains in which express cars are carried. A delegation of officers of the principal express companies called on Mr. McAdoo on January 10, and, it is understood, practically asked him to take over their business, which is to a very large extent intertwined with that of the railroads.

The Interstate Commerce Commission

While there has been much discussion of the effect on the Interstate Commerce Commission of the President's

various parts of the country; Commissioner Daniels is securing information on which to make up a budget of railroad improvements and additions to equipment; the Bureau of Car Service is taking a census of the number and availability of the freight car equipment. Commissioner Anderson, after having been the principal author of the administration's bill providing the terms for the exercise of Government control, has been busy for a week expounding it to the Senate and House committees, and Commissioner Harlan has been in New York helping to relieve the congestion there.

Mr. McAdoo and the members of his advisory board occupy a large part of one floor of the Interstate Commerce Commission building, and the Commission on Car Service of the American Railway Association occupies the floor above, as the functions of the subsidiary organization of the former railroads' War Board, which had a building of its own, have been taken over under the direction of Hale Holden, president of the Chicago, Burlington & Quincy.

The Interstate Commerce Commission on Saturday cleared the way for railroads to haul freight over the shortest



Photo from International Film Service.

Reasons Enough Why This Train Arrived Late at Chicago

action in taking over the railroads and placing them under the direction of Mr. McAdoo, and it has become entirely evident that the Commission has lost much of its supreme authority because that of the director general of railroads has been made paramount, the Commission has by no means been side-tracked.

Its office building in Washington has now become the headquarters of the U. S. A. R. R., and to all outward appearances it is a busier place than ever before. While the rate problems with which the commissioners and their subordinates formerly wrestled have been diminished both in number and in importance, a large number of new tasks has been imposed upon the commission by the director general in accordance with his announced intention of making use of its organization to the full. Commissioner McChord is securing information regarding transportation conditions in

routes and establish new receiving or delivery points by issuing an order allowing the necessary tariff changes to be made on one day's notice, and allowing relief from the provisions of the long and short haul clause in the case of new rates made to open new routes.

The State Commissions Just After the Cyclone Passed

At this important period in the history of transportation the railroads find themselves to some extent on a plane of sympathy with, if not from, the state railroad commissions which are concerned as to the effect of the new regime on their status.

The President's proclamation provides that "Until and except so far as said director shall from time to time otherwise by general or special orders determine, such systems of transportation shall remain subject to all existing statutes

and orders of regulating commissions of the various states in which said systems or any part thereof shall be situated. But any orders, general or special, hereafter made by said director shall have paramount authority and shall be obeyed as such."

Charles E. Elmquist, secretary of the Special War Committee of the National Association of Railway and Utilities Commissioners, has addressed to the state commissions a bulletin on the subject of Government operation of railroads. After quoting the above and other extracts from the President's proclamation and message, he says (italics his): "Examination of the foregoing makes it appear that the railroads were taken over as a war measure, should be *operated as a war measure*, and that none of the functions exercised by the Interstate Commerce Commission or state commissions or common law or statutory rights of shippers and passengers, should be curtailed unless *it is necessary to do so as a war measure*. Exigencies of war should not require the director general to set aside statutes or orders of state or federal commissions, or to abolish the wise practice of submitting all rate questions to regulating tribunals, with the right of the public to be heard. *The right of the director general to supercede by an order the constitutional rights heretofore exercised by the states is a debatable question. Instead of considering the distinction between state and federal authority at this moment of extreme peril* to the Nation, we regard it as important to establish a fair, just and workable basis of co-operation between the state and federal governments, so that all regulating officials and employees may work together in the common cause of helping the country win the war. *Team work should be the watchword*. For the purpose of establishing a correct understanding between the states and the government the Hon. Clyde B. Aitchison has been designated as the person to confer with Mr. Charles E. Elmquist, secretary of your Special War Committee, and it is expected that a working basis may soon be reached. It is to be expected that questions for discussion will frequently arise and the Interstate Commerce Commission felt that this plan establishes a helpful point of contact between the states, federal government and the director general. Your committee will give much thought to these matters and invites suggestions from the commissions. *It is to be expected that the railroads will ask the director to interfere with pending actions before, or orders made by, the commissions*. It will be of service to the states if the special War Committee is furnished with copies of orders that are issued by the states, which affect revenues, labor or material, and also a statement of pending formal cases, and what is involved in them. *The state commissions should retain jurisdiction over all matters conferred by statute until otherwise ordered by the director or court, at which time appropriate action may be taken*. The exercise of these functions, however, should have due regard to the conditions imposed by the war. *The underlying purpose should be to help the government operate the railroads in such a way as to make them a vigorous auxiliary of our war machinery*. This can be done by helping to curtail unnecessary and luxurious passenger service, save fuel and motive power, eliminate circuitous routing, police the yards and terminals for the purpose of expediting delivery by the carriers and prompt release of equipment, encourage heavy loading and prevent the bunching of cars, use conservatism in treating demands for improved station facilities and reduction of grade crossings and other improvements which cost money and absorb labor and material, constantly remind the public that we are in a state of war and that normal service can not be expected, and be careful to find out if the carriers, their employees and agents are freely and unreservedly responding to the unusual demands for service which are brought on by the war.

"Your committee takes pleasure in announcing that the President in his proclamation honored our request that the

state commissions be recognized and shippers be given the right to sue railroads in local courts. The legal effect of that part of the proclamation is a moot question.

"I am sending to your office one copy of the administration bill introduced in Congress. Examine this carefully and decide if amendments are necessary to preserve the useful powers of the Interstate Commerce Commission to regulate interstate commerce and complete the valuation of railroad property, and secure the right of the states to regulate intrastate rates and service, and of the shipper to be heard upon questions affecting charges for transporting persons or property, and to sue railroad companies for damages to person or property, in local courts. Send your recommendations to your Congressional delegation and furnish me with a copy. It will also be well to have special attention given to the existing status of state commissions and the right of the director general to set aside state statutes or orders made by commissioners."

This bulletin expresses a commendable desire to co-operate, and if it displays a keen interest in the preservation of the constitutional rights of state commissions it may be well to recall that the President has not yet recommended any guarantee to state commissions.

Wages

Mr. McAdoo has already begun to hear from the classes of employees other than the members of the brotherhoods who want their wages increased. On January 9 S. E. Heberling, president of the Switchmen's Union of North America, which is a rival of the Brotherhood of Railroad Trainmen and the Order of Railway Conductors in its efforts to represent yard employees, called on Mr. McAdoo to discuss demands already presented to the roads which have contracts with the switchmen's organization. The organization of the maintenance of way employees has asked the United States Board of Mediation and Conciliation to call the attention of the director general to their interests. A movement has also been started among train despatchers to bring their claims for increased wages before Mr. McAdoo. How great strength this movement represents has not been made clear, but copies of a petition have been circulated among the despatchers of different roads with a request to them to sign it and forward it to the director general. The petition contains a review of the working conditions of despatchers and asks for one day off per week, or in lieu thereof double time for Sundays and holidays; a monthly salary of \$235 for chief despatchers, \$225 for assistant chief despatchers, and \$215 for trick despatchers, to be made effective as of January 1, 1918; also foreign line and Pullman transportation. The Order of Railway Telegraphers has been following its usual plan of presenting demands separately to individual railroads, but its president, H. B. Perham, has been in Washington recently.

Burleson Finds Mail Trains Late

Comes now A. S. Burleson, Postmaster General, to take a last crack at the "inefficiency" of the railway mail service while the cracking is still good, because hereafter cabinet courtesy, if not the well known admiration of the Postmaster General for government management, will probably preclude such statements as the one he has just issued in answer to many criticisms of delay in the mail service.

"During the month of November," says the Postmaster General, "mail trains failed to make scheduled connections 86,712 times. One of the important trains, carrying mail from Washington, Baltimore, Philadelphia and points west, failed 70 per cent of the time during the last four months; and the principal train between New York and Chicago failed 71 times in its Southwest connection during three months, and 57 times in its Northwest connection.

"Delay in the transmission of mail," says the Postmaster General, "is due to congestion of the railroad system. Re-

ports on daily operations of the railway mail service, the postoffice and city delivery show that the mail, though presented in greater volume than before in the history of the country, is being handled more expeditiously by the postal employees than in previous years. That there has been delay, sometimes serious, is a matter of public knowledge not disputed by the department."

The Postmaster General, however, unlike most people who have to explain delays or shortages these days, does not make any complaint on the score of increased expenses. He says:

"There is no indication of whereby more liberal, lawful expenditure of money in any branch of the service under the control of the department the delivery of mail could be facilitated. The Post Office Department is no more responsible for delay in the delivery of a letter than it is for the delay in the delivery of coal and sugar, and were additional sums expended much in excess of the surplus of the past ten years the mail could in no wise be expedited."

"Reports show that notwithstanding an increase of more than 25 per cent in first-class matter and approximately 40 per cent in parcel post, there was a marked improvement in the service during 1917 as compared with that of other years."

"The reports of the holiday season show that the only point where congestion occurred in a post office was in Washington, and this congestion was due to failure by the railroads to furnish sufficient cars, the mail through this office having increased at least 10 times the normal amount by reason of the city being the gateway to army cantonments and mobilization camps."

The Postmaster General takes his critics to task on complaints that he has saved from \$5,000,000 to \$9,000,000 for the government, believing that this curtailment has injured the service. Mr. Burleson contends that the service has been bettered, not hindered, and challenges any one to show where "by the restoration of a system of prodigality of expenditure" the delivery of mail could have been made more prompt.

These are some of the things he says. Some of the things he does not say are that most of the \$5,000,000 to \$9,000,000 he has saved has been saved at the expense of the railroads, by reducing their pay for carrying the mails. "Poor pay, poor preacher." Either of the sums named would have bought a few mail cars.

The 25 to 40 per cent increase in mail service finds no response in the bulletins on railway revenues published by the Interstate Commerce Commission. For the 10 months ending October 21, published in the commission's latest report, while total railway operating revenues per mile increased 11.8 per cent as compared with the corresponding period of 1916, and freight revenues increased 10.7 per cent, passenger revenue 15.1 per cent, and express revenues 19.3 per cent, the revenues received for transporting the mails show a decrease of 1.7 per cent.

Purchasing Departments Undisturbed

There is no apparent intention on the part of the government railway administration, for the present at least, to interfere with the functions of the railroad purchasing departments. Mr. McAdoo and his staff are concentrating most of their attention upon the immediate pressing problem of moving the freight and clearing up congestion and until he sees fit to act the railroads will continue to purchase their own supplies in the usual way, just as they continue to operate their lines. The administration bill provides for an appropriation of \$500,000,000 to be used with any excess earnings above the guarantees, in the purchase of engines, rolling stock and other necessary equipment and for terminal improvements. Probably orders placed with this money would be expended under the direct supervision of the government, but so far as routine matters are concerned the railroad officers

will follow their usual course, as provided in the following paragraph from the President's proclamation:

"Said director may perform the duties imposed upon him, so long and to such extent as he shall determine, through the boards of directors, receivers, officers and employees of said systems of transportation. Until and except so far as said director shall from time to time by general or special orders otherwise provide, the boards of directors, receivers, officers and employees of the various transportation systems shall continue the operation thereof in the usual and ordinary course of the business of common carriers, in the names of their respective companies."

(See also item in news department entitled "Running the Railroads Under the New Regime."—Editor.)

Train Accidents in December¹

THE FOLLOWING IS A LIST of the most notable train accidents that occurred on the railways of the United States in the month of December, 1917:

Collisions						
Date	Road	Place	Kind of Accident	Kind of Train	Kil'd	Inj'd
1.	Alabama G. S.	Boligee	rc	P. & F.	1	1
*6.	Erie	Susquehanna	xc	P. & F.	4	2
8.	Illinois C.	Wingo	bc	P. & F.	0	2
8.	St. Louis & S. F.	Weleetka	bc	F. & F.	3	..
10.	Nashville, C. & St. L.	Dickson	xc	F. & F.	2	..
16.	Del. & Hudson	Cobleskill	rc	F. & F.	1	0
†20.	L. & Nashville	Shepherdsville	rc	P. & P.	47	40
20.	N. Y., N. H. & H.	New Haven	xc	P. & F.	1	3
23.	Central N. J.	Ludlow	rc	F. & F.	1	2
24.	Canadian Pac.	Keough, Me.	rc	F. & F.	2	0
29.	Balt. & Ohio	N. Vernon	bc	P. & P.	8	20

Derailments						
Date	Road	Place	Cause of Derailment	Kind of Train	Kil'd	Inj'd
2.	Wabash	Edwardsville	d. truck	P.	0	0
2.	Ill. Central	Granger	d. eq.	P.	0	26
3.	Pennsylvania	Corry	d. ew.	P.	2	0
6.	Norfolk So.	Butts	malice	F.	1	2
6.	Miss. Central	Camp Shelby	d. eq.	P.	1	3
8.	Ches. & Ohio	Sharon	ice	P.	4	4
17.	Duluth & I. R.	Tower	P.	..	54
21.	Denver & R. G.	Dale	runaway	F.	1	3
24.	Ga. S. & Fla.	Valdosta	b. rail	P.	0	4
25.	N. Y., N. H. & H.	Roxbury, Conn.	b. rail	P.	0	12
26.	Southern	Ludlow, Ky.	runaway	F.	0	0
30.	W. Maryland	Security	runaway	F.	0	0

Other Accidents						
3.	Pennsylvania	Derry	acc. obst.	P.	0	27

The trains in collision at Boligee, Ala., on the first were northbound passenger No. 2 and northbound freight No. 6580, the passenger running into the rear of the freight. The fireman of the passenger train was killed and the engineman injured. The collision was due to disregard of block signal by train No. 2; and the men in charge of No. 6580 are charged with neglect of flag protection.

The trains in collision at Susquehanna, Pa., at 12:45 a. m., on the 6th were eastbound passenger No. 48, and a switching engine, moving westward, pulling a freight train. Both trains were on the westbound track, the eastbound track having been blocked by a derailment. Both locomotives were wrecked and their combustible parts took fire. A caboose next to the switching engine was burnt up, together with the bodies of two trainmen who were in it, and were killed. The baggage car of the passenger train was wrecked and the baggage man was killed. One other employee was killed and two were injured.

The trains in collision near Wingo, Ky., on the morning of the eighth, about 1 o'clock, were a northbound passenger No. 104 and southbound freight extra 1744. The freight

¹ Abbreviations and marks used in Accident List:
rc, Rear collision—bs, Butting collision—xc, Other collisions—b, Broken—d, Defective—unf, Unforeseen obstruction—unx, Unexplained—derail, Open derailing switch—ms, Misplaced switch—acc. obst., Accidental obstruction—malice, Malicious obstruction of track, etc.—boiler, Explosion of locomotive on road—fire, Cars burned while running—P. or Pass., Passenger train—F. or Ft., Freight train (including empty engines, work trains, etc.)—Asterisk, Wreck wholly or partly destroyed by fire—Dagger, One or more passengers killed.

had been brought to a stop and the passenger was running at low speed. There was a blinding snow storm at the time. One engineman and one fireman were injured.

The trains in collision near Weleetka, Okla., on the night of the eighth were through freight. Both locomotives were wrecked and three employees were killed.

The trains in collision at Dickson, Tenn., on the tenth were a through freight of the main line and a local freight of Centerville branch. Two employees were fatally injured.

The trains in collision at Cobleskill, N. Y., on the 16th were eastbound freight No. 864, running into the rear of No. 791. Two engines and 11 loaded cars were wrecked. The engineman on No. 864 was killed. Train 864 ran into the passing siding already occupied by the preceding train at excessive speed, and No. 791 was not properly protected.

The trains in collision at Shepherdsville, Ky., on the evening of the 20th were southbound passenger No. 41, a local train, and southbound passenger No. 7, a through express. The express ran into the rear of the local, wrecking the two rear cars and killing 45 passengers and two trainmen. About 40 passengers were injured. There appear to have been neither space-interval nor time-interval regulations, but the engineman of the express disregarded a train-order signal, the observance of which would have given him sufficient space within which to stop his train before striking No. 41. This collision was reported in our issues of December 28 (p. 1185), January 4 (p. 88) and January 11 (p. 137).

The trains in collision near New Haven, Conn., on the 22d were a northbound passenger and a switching engine, the collision occurring within yard limits. The fireman of the passenger train was killed and three other employees were injured. The baggage car was overturned.

The trains in collision at Ludlow, N. J., on the 23rd were westbound through freights. One trainman was killed and two others were injured. The engineman of the second train fell asleep and awoke too late to stop before running into the other train. He had been on duty 6¾ hours.

The trains in collision at Keough, Me., on the 24th were an eastbound freight and a following locomotive without a train. The empty engine ran over a misplaced switch and into the rear of the freight, wrecking the caboose. The conductor and a trackman, in the caboose, were killed.

The trains in collision on the Baltimore & Ohio at North Vernon, Ind., on the 29th of December, were eastbound passenger No. 2 and westbound passenger No. 23, second section. Eight persons were killed; one passenger, the engineman, fireman and baggageman of the westbound train, and the engineman, fireman, baggageman and one brakeman of the eastbound. About 20 persons were injured. The eastbound train had run past distant and home automatic block signals set against it. This collision was reported in the *Railway Age* of January 4.

The train derailed at Edwardsville, Ill., on the 2d was westbound passenger No. 3. No serious injuries to persons were reported. The derailment was due to the failure of an arch bar of one truck of the tender. A broken part fell to the ground and tore out a frog.

The train derailed near Granger, Ill., on the 2nd was a westbound special passenger carrying soldiers returning from a two-day holiday at Chicago. Two of the 13 cars of the train were overturned, and 25 passengers and one employee were injured. The derailment was caused by the failure of a brake rod connection on one of the trucks of the tender which fell to the track and caught in a switch.

The train derailed near Corry, Pa., on the morning of the 3rd, at about 2 o'clock, was a southbound passenger. The engine was overturned and the engineman and fireman were fatally scalded. The derailment was caused by a defective brake rigging which fell to the ground and caught in a plank crossing.

The train derailed at Butts, Va., on the night of the 6th was southbound freight No. 63. The engine was derailed at a misplaced switch, and, with four cars, was overturned and wrecked. The fireman was killed and two other trainmen were injured. The switch had been tampered with.

The train derailed near Camp Shelby, Miss., on the 6th was a westbound passenger. The fireman and three passengers were injured, the fireman fatally. The cause of the derailment was not determined; supposed to be defective truck.

The train derailed on the Chesapeake & Ohio at Sharon, Ky., on the night of the 8th was eastbound passenger No. 24. Both of the two engines drawing the train were overturned and fell against the caboose of a freight train standing on a side track. One trainman in the caboose, and three other employees were killed, and three employees and one mail clerk were injured. The leading engine had been thrown off the track by ice at a street crossing about three miles back, and had run on the ties the whole distance to a switch, near the standing freight train, where the engines headed across the side track.

The train derailed near Tower, Minn., on the 17th was a local passenger. Three coaches fell down a bank and were overturned. Fifty-four passengers and 2 trainmen were injured.

The train derailed near Dale's Station, Utah, on the 21st, about 5 a. m., was a westbound freight. The train became uncontrollable on a steep descending grade and was thrown off the track at a curve. One trainman was killed and three others were injured, one of them fatally.

The train derailed near Valdosta, Ga., on the 24th was southbound passenger train No. 95. The locomotive and tender remained on the rails, the four coaches being derailed but not turning over. Three passengers and one porter were slightly bruised. The derailment was caused by a piped rail breaking under the train.

The train derailed near Roxbury, Conn., on the 25th was a southbound passenger. Twelve passengers were injured. The cause of the derailment was a broken rail.

The train derailed at Ludlow, Ky., on the 26th was a northbound freight. The train became uncontrollable on a steep descending grade near Erlanger, seven miles from Ludlow and ran at high speed to a switch in Ludlow yard, where the engine and 25 cars were ditched.

The train derailed near Security, Md., on the 30th was a westbound freight, No. 914. The train became uncontrollable on a steep descending grade near Edgemont and ran at a high speed to Security, about 10 miles. Several cars were thrown off the track at a curve near Cavetown.

The train involved in the accident near Derry, Pa., on the 3rd was eastbound passenger No. 32. While passing, at full speed, a freight train, standing on the adjacent main track, a freight car projected so as to foul the side of the passenger train, and many coach windows were broken. Twenty-six passengers and one employee were injured.

Electric Car Accidents.—Six serious accidents to electric cars were reported in the newspapers as occurring in the United States in the month of December; the worst one, a runaway at Pittsburgh, Pa., on the 24th, causing the death of 20 passengers and the injury of about four times as many. This accident was reported in our issue of December 28, page 1189. At Houston, Tex., on the 15th, a locomotive ran into a street car, killing three persons and injuring five. Other accidents—causing one death and a number of injuries each—occurred at Weehawken, N. J., on the 14th; Baltimore, Md., on the 19th; Fair Hope, Ohio, on the 26th, and Vandalia, N. Y., on the 26th.

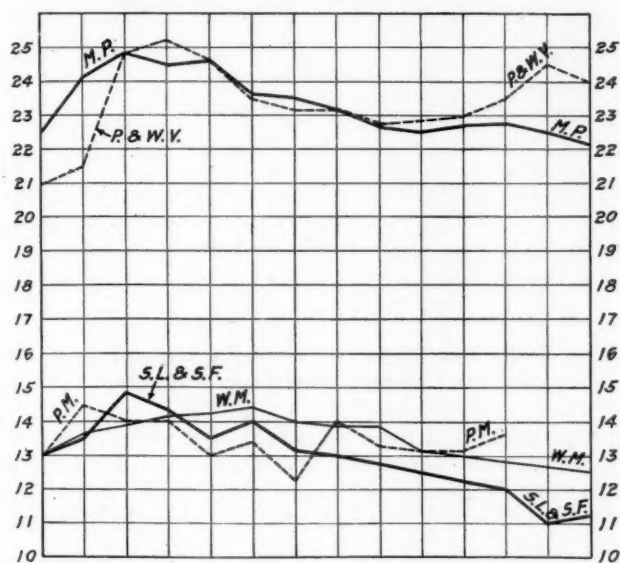
Canada.—In a collision on the Canadian Pacific, near Tilsonburg, Ont., on the 17th, one employee was killed, and in another on the Grand Trunk at Stoney Creek, Ont., on the 18th, two were killed and three were injured.

How Will the Railroad Securities Be Affected?

Progress of the Country Can No Longer Be Counted Upon as a Favorable Factor in Railroad Stock Values

ON THE THURSDAY MORNING after the announcement of the President in regard to the government operation of railways and guarantee of net income, there was a quite sharp rise on the New York Stock Exchange in the price of most of the so-called standard railroad stocks. By the following Saturday a reaction had set in in many railroad stock prices.

Of all the many things that are reflected in price changes



Closing Prices Dec. 26 to Jan. 11 of Missouri Pacific, Pittsburgh & West Virginia, Pere Marquette, Western Maryland and St. Louis-San Francisco

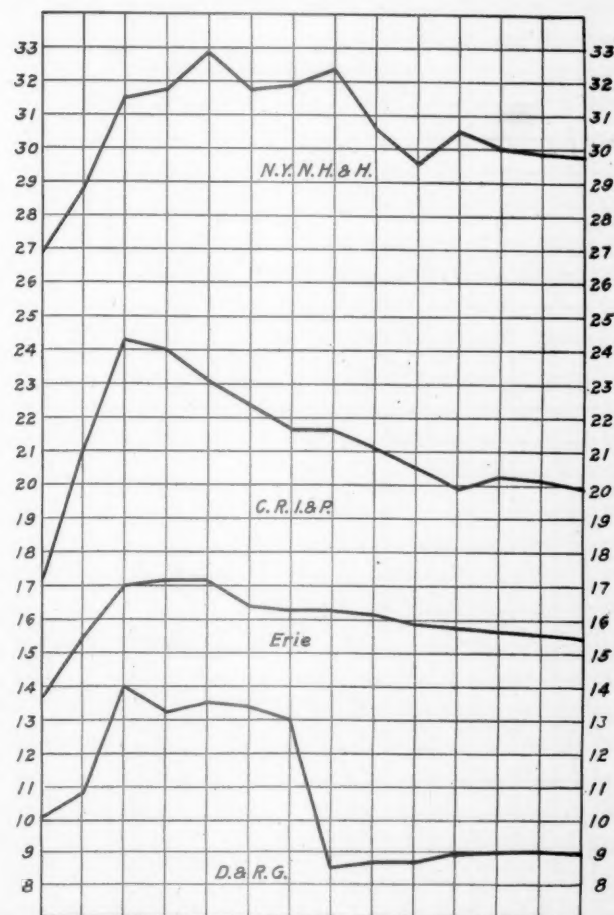
on the stock exchange it is possible to distinguish two principal groups: one group has to do with nerves, the other with brains or judgment. The sudden upward trend of prices on Thursday and its continuation in some cases on Friday may be principally attributed to those causes in the group that has to do with nerves. It reflected the sudden cessation of nervous dread which had been cumulative in the past few days and weeks. The charts show the closing price of each of 20 railroad stocks on each stock exchange day from Wednesday, December 26, the day before the President's proclamation, to Friday, January 11. The course of prices, after the first sudden rise of Friday, may in general be said to reflect the judgment of the market, modified, of course, by specific supply and demand conditions.

After the relief due to the removal of uncertainties had worn off a little, one of the first things that struck an investor in railroad stocks when he studied the administration's bill was that whereas nearly all investment in stocks and the great bulk of investment in bonds has been predicated upon the assumption that gross business will steadily increase at an average annual rate of about 8 per cent, and that a considerable part of the increase in gross will go one way or the other to enhance the return on the investment or the equity behind it, now suddenly that whole attitude of mind has to be changed. Not only is there no hope for an increased return on the investment and no longer can progress and growth of the country be a factor to count upon, but even the best that we have done before is not taken as a standard for the future—it is averaged down by the inclusion of 1915.

There are only a few American railroad stocks that are

properly classed as investments; the others are to a greater or less extent speculative, and yet the country just as surely owes its railroad development to the speculator as it does to the conservative investor. To the speculative stocks and to the stocks of recently organized companies the administration's guarantee plan is most unjust. The chart showing the prices of Missouri Pacific, Pittsburgh & West Virginia, Pere Marquette, Western Maryland, and St. Louis-San Francisco show this in quite a striking way. These roads have all been through reorganization. All of them have had bad debts written off, very considerable losses charged out to security-holders, and the par value of the outstanding securities of at least three out of five is much lower than the actual cash investment in the properties.

It is, of course, impossible accurately to figure out just what "other income," "fixed charges" and "rentals" will be

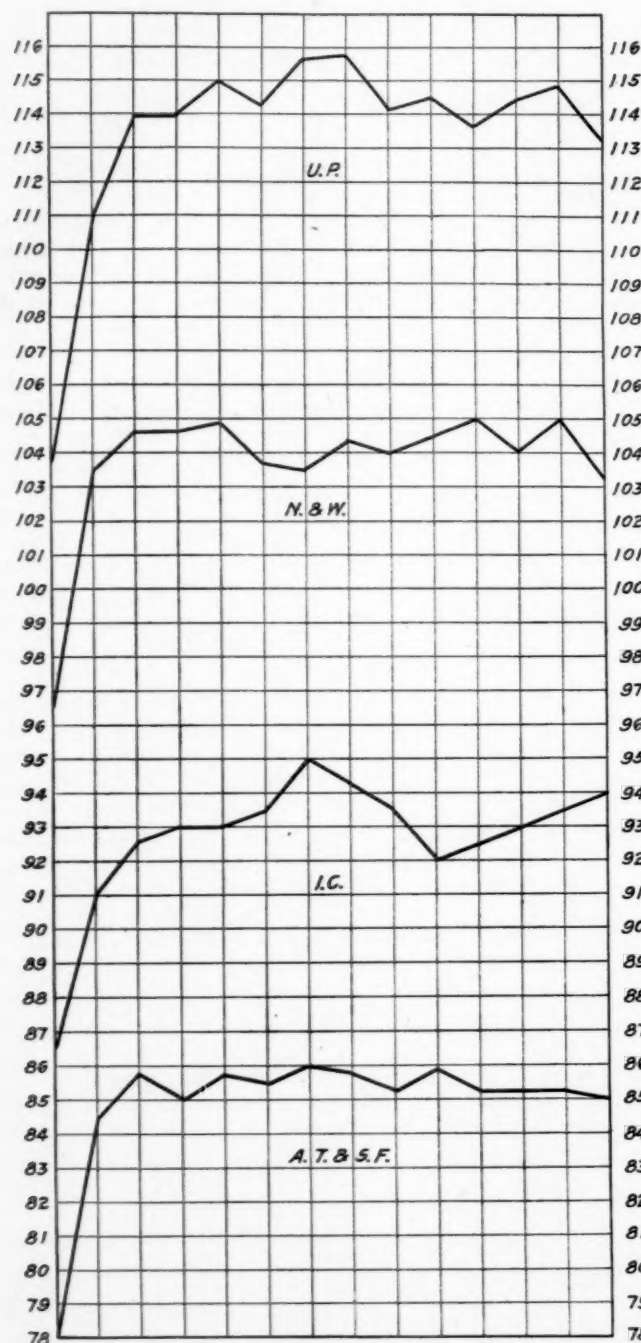


Closing Prices Dec. 26 to Jan. 11 of New York, New Haven & Hartford, Chicago, Rock Island & Pacific, Erie and Denver & Rio Grande

in the next two or three years, but based on the actual figures for the last year (either fiscal or calendar, whichever is available) it would appear that the Missouri Pacific's fixed charges, rentals, etc., would be between nine and ten million dollars. The sum which the directors will have under the "standard return" plan will be \$14,345,131. There is here a little margin, but the reorganization plan was predicated on the assumption that the new stockholders who had paid

a heavy assessment would in the near future begin to receive some dividends; without the President's specific permission they cannot now receive dividends.

The Pittsburgh & West Virginia will receive only \$298,704 under the government guarantee, but its stockholders were former bondholders and the par value of the stock is less than the actual cash investment in the property.



Closing Prices Dec. 26 to Jan. 11 of the Union Pacific, Norfolk & Western, Illinois Central and Atchison, Topeka & Santa Fe

The Western Maryland will receive \$3,090,247; its fixed charges are between two and three million and its cumulative dividend requirements \$1,260,000.

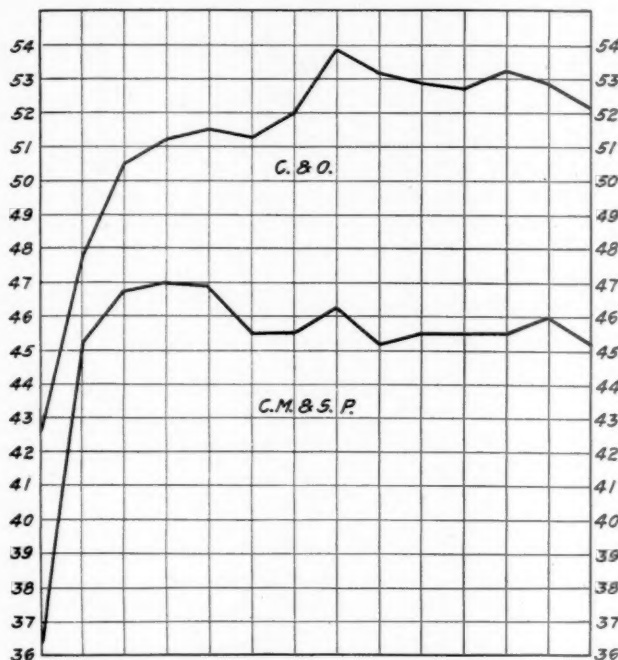
The Pere Marquette will receive \$3,750,963, while its fixed charges are over one and a half million and its cumulative dividend requirements nearly \$1,200,000.

The St. Louis-San Francisco will receive \$13,453,378, while its fixed charges are over fourteen million dollars.

All of these roads will have some "other income" to add

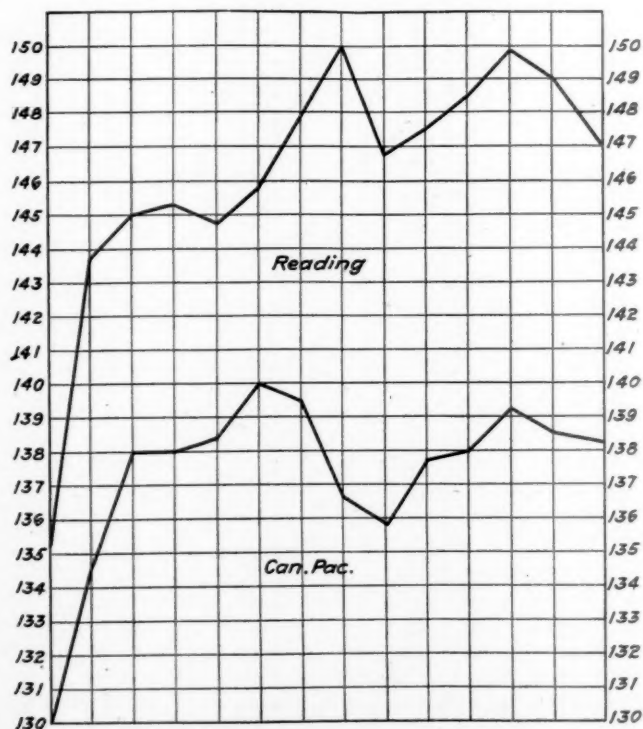
to the government's guarantee, but even this will not leave them anything like an adequate margin.

Turning now to the railroads that have had fairly good



Closing Prices Dec. 26 to Jan. 11 of the Chesapeake & Ohio and the Chicago, Milwaukee & St. Paul

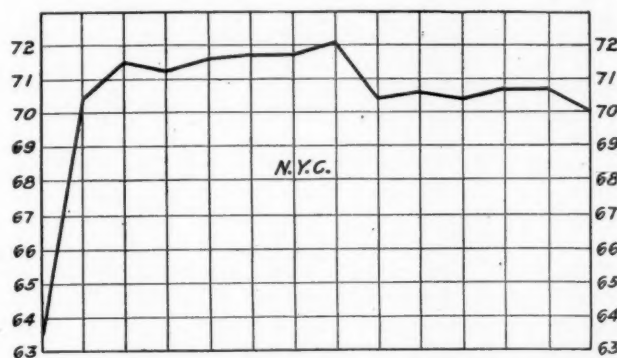
earnings in the past three years, but about which there had been considerable doubt and uncertainty. In this class are the Chicago, Milwaukee & St. Paul, New York Central, New York, New Haven & Hartford, and Chicago, Rock Island &



Closing Prices Dec. 26 to Jan. 11 of Reading and Canadian Pacific

Pacific. At first thought it would seem that the government's plan would be of great market value to these companies' stocks. The stocks had been selling down and down because of the fear that the future would not be as good to them as

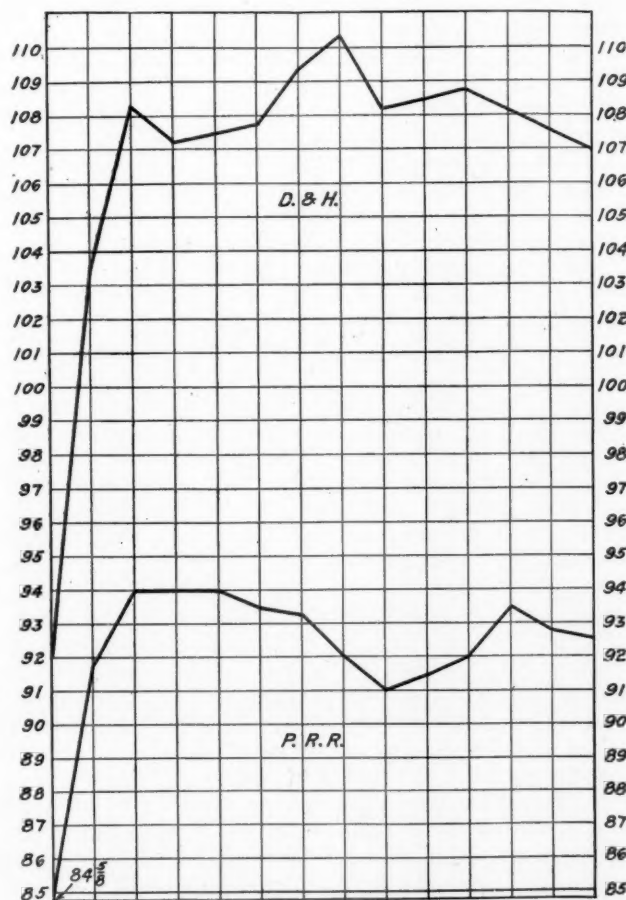
the past had been. Now they are to be guaranteed on the basis of the past. It is quite evident from the charts that the stock markets took this point of view, at least on Thursday, but further consideration proved to be not so optimistic, especially in the case of the Rock Island and the New Haven.



Closing Prices Dec. 26 to Jan. 11 of New York Central

The Rock Island will receive \$15,074,232; its fixed charges, after deducting other income, will be apparently nearly \$14,000,000.

The Chicago, Milwaukee & St. Paul will receive \$27,343,308 and its fixed charges, after deducting other in-



Closing Prices Dec. 26 to Jan. 11 of Delaware & Hudson and Pennsylvania

come, will be between fourteen and fifteen million dollars, leaving between twelve and thirteen million dollars for dividends and surplus, while 7 per cent on the preferred and 4 on the common will call for nearly \$13,000,000.

The New York Central is in a quite different situation. It will receive \$55,972,807, with net fixed charges, etc., amount-

ing to a little over seventeen and a half million, leaving in the neighborhood of thirty-eight million dollars, with dividend requirements at the present rate of slightly less than twelve and a half million dollars.

The Chesapeake & Ohio presents an interesting individual case. It will receive \$13,268,096 and will have left, after paying fixed charges, etc., something over five million dollars. It has only recently resumed paying dividends and without special permission could not supposedly continue the 4 per cent rate but the market took a decidedly favorable view of it.

The Delaware & Hudson stands in a class by itself. It will receive \$7,526,294 and will have left net, excluding increased income from the coal mining department, nearly \$4,000,000, while its 9 per cent dividend requirements call for a little over \$3,800,000. The Delaware & Hudson had the largest rise shown on any of the charts. The fact was, however, that the stock was selling at entirely too low a price due to a persistent and long drawn out raid on it in the stock market, accompanied by rumors without any foundation in fact.

Turning now to what may be properly considered high class investment stocks. We have the Union Pacific, which will receive \$38,567,303 with net charges of \$1,500,000 and dividend requirements of 8 per cent on the common and 4 on the preferred, or a little over \$21,700,000, leaving a surplus of nearly fifteen million.

The Norfolk & Western will receive \$20,918,830 and have left over \$19,000,000, with dividend requirements of about \$8,000,000.

The Illinois Central will receive \$16,549,399 and have left between eleven and twelve million dollars, with dividend requirements of about \$6,500,000.

The Atchison, Topeka & Santa Fe will receive \$42,398,406 and have left over \$31,000,000, with dividend requirements of only a little over \$19,000,000.

The stocks of these roads had a large rise and fairly well maintained their new levels but apparently there is uncertainty as to just how the surplus above the "standard return" not required for dividends will be dealt with. If Congress and the Interstate Commerce Commission squarely live up to the commission's theories of the distinction between capital expenditures and expenses this surplus can be invested as new capital and the standard return will be increased by an amount equal to interest thereon. If this interpretation is placed on the law there will be, therefore, a chance for roads like the Santa Fe, Norfolk & Western and Illinois Central to appreciate in value and for a steadily increasing equity back of the stocks. The same is true of the Pennsylvania, although, because of the consolidation of the Pennsylvania Company with the lines east, an accurate forecast cannot be made of how great the surplus would be above the standard return.

Canadian Pacific, which was not affected by the President's proclamation, except through its ownership of Soo stock, had as great a rise as many stocks that were directly affected. The explanation of this is probably a technical one. J. P. Morgan & Co. have presumably been liquidating a heavy line of securities which included a very large block of Canadian Pacific in anticipation of paying off a British loan which matures at about this time. There had, therefore, been heavy selling pressure on Canadian Pacific and when this pressure ceased as it did before December 26, an excuse only was needed for a considerable rise.

It would appear that if the government passes and interprets the new law so as to make it less of a hardship on the newly reorganized roads and plays fairly and squarely with roads like the Santa Fe and Illinois Central, there is a real chance that standard American railroad stocks will again become acceptable to investors for the first time in more than a decade.

Tests of Manganese Steel Rails

THE SERVICE which has been secured from manganese steel rails on seven railroads is given in a report prepared by M. H. Wickhorst, engineer of tests of the rail committee of the American Railway Engineering Association, Chicago, and published in bulletin No. 199 of that association. These seven roads submitted reports to the committee giving in considerable detail the curvature and grades and the approximate density of traffic to which the test rails were subjected. Two of the seven reports submitted to the committee are abstracted below with the conclusions based on the seven reports.

Tests on Lackawanna

In the fall of 1912, 500 tons of 101-lb. rolled manganese rail was secured, for use on some of the sharp curves of the eastbound track of the Delaware, Lackawanna & Western on a 1½ per cent grade down the Pocono mountain. After the manganese rail had been in service for about two years, the low rail on some of the sharpest curves showed signs of flowing. This flowing was not by the formation of a lip, as is usually the case with Bessemer or open-hearth rail, but the head of the low rail dished slightly and the entire head seemed to move both ways from the center. With a view of getting the full life out of this rail, we decided to remove the low rail from the curves in question and lay it on the high side of other curves, laying frictionless rail on the low side.

For convenient study, the results of the several tests showing the abrasion of the high rail per million tons of traffic are given below:

HIGH RAILS			Sq. in. abrasion per million tons
Curve	Kind		
6°	Beth. O. H.		.0230
6°	Lack. Bess. F. T.		.0283
6°	Lack. O. H. Spec. Prem.		.0274
6°	Beth. O. H. Spec. Prem.		.0200
6°	Ill. Manganese		.0035
6°	Ill. Manganese		.0035
6°	Lack. O. H. Spec. Prem.		.0222
6°	Ill. Manganese		.0034
7°	Lack. Bess.		.0718
7°	Lack. O. H.		.0583
7°	Passaic Manganese		.0115
7°	Beth. O. H.		.0275

Tests on Pennsylvania

In April, 1912, about 41 tons (0.27 track miles) of 100-lb. P. S. Manard rails were laid in the eastward freight track on the Horseshoe curve, and open-hearth rail was laid simultaneously, adjoining it, for comparison. The Manard rail cost \$94 per ton. In September, 1912, the open-hearth was replaced with new open-hearth, this latter rail remaining in track until January 7, 1913. The open-hearth rail was again renewed on June 20, 1913, and both open-hearth and Manard were removed October 15, 1913, the life of the Manard being 17½ months, or four times that of the open-hearth.

The figures below give the average abrasion of each kind of rail:

Date of measurement	Manard		Open-Hearth	
	Square inches	Per cent of head abraded	Square inches	Per cent of head abraded
October, 1912.....	0.08	1.9	0.52	12.4
February, 1913.....	0.47	11.2	1.25	29.8
June, 1913.....	0.63	15.0	2.11	50.1
October, 1913.....	0.81	19.2	3.11	74.0

There were three failures of the Manard rail out of a total of 84 rails laid, two consisting of transverse fractures through the head and about two-thirds of the web and one by split head.

On January 26, 1914, about 0.27 track miles of Manard rail was laid in the eastward freight track on the Horseshoe curve in comparison with ordinary open-hearth rail. It was removed November 9, 1915, the abrasion being as follows:

Abrasion	Manard	Open-Hearth
Total area—sq. in.....	0.74	4.13
Per year of service.....	0.42	2.35
Per ten million tons of traffic.....	0.07	0.41

On the Middle division, in 1914, 0.40 track miles of Manard rail was laid, as follows:

Date	Miles	Track	Location	Curve
Jan. 14	0.16	Ewd. Pass.	W. of Barree	6°
Jan. 26	0.19	Ewd. Pass. & Frt.	E. of Tyrone Forge	6°
May 1	0.05	Ewd. Pass. & Frt.	W. of Shoenberger	6°

This rail is still in track and the stretches west of Barree and east of Tyrone Forge now show wear as follows:

Location	Deg. of curve	Per cent of head abraded	Service to date	Life of ordinary rail
Barree	6°	8.44	33 mo.	14 mo.
Tyrone Forge	6°	10.39	33 mo.	18 mo.

Of the 0.94 track miles of Manard rail in track there have been 40 failures, of which 28 were transverse fractures through the head and a portion of the web, 6 were split head and 6 split web. In no case was the rail broken through. Forty failures in 0.94 track miles in average life of 3½ years amounts to 1,216 failures per year per 100 miles of track, as compared with an average of 27 failures for all rail on the Pennsylvania on the same basis.

A comparison of failures per 100 track miles of Manard rail with those of ordinary open-hearth, 1913 100-lb. P. S. rails shows the following:

	Failures per 100 track miles				Position in ingot			
	Head	Web	Base	Broken	A	B	L/3	*Total
Manard	639	639	..	2977	2127	1488	74	4255
Ordinary O. H.	31	27	2	28	23	16	12	88

*Failures in lower positions divided by 3 to show approximate number in each position.

The annual cost per ton of open-hearth rail at \$30, lasting one year, is \$28, and Manard at \$94, lasting four years, is \$27. It would therefore be economical to use Manard rail on sharp curves under heavy traffic where ordinary open-hearth rail lasts one year or less, but not elsewhere. In this comparison failures are not taken into account. If they are considered, the cost of the Manard rail per ton per year would be increased about \$3, and with such a failure rate it would be economical only at locations where ordinary open-hearth wears out in 8 months.

Conclusions

The following are probably the conclusions that may be drawn from the various tests:

1. Manganese steel rails abrade much slower than Bessemer or open-hearth steel rails on sharp curves. On curves of 8 or 9 deg. the abrasion of the high rail per million tons of traffic, may be taken very roughly as follows: Manganese, 0.004 sq. in.; open-hearth, 0.012 sq. in.; Bessemer, 0.20 sq. in. In other words, the abrasion of open-hearth rails is about three times that of the manganese rails, and the abrasion of the Bessemer rails is about five times. The results, however, vary considerably and are probably dependent upon the nature of the rolling equipment as well as the tonnage. We also have no information as to relation between the abrasion and degree of curvature.

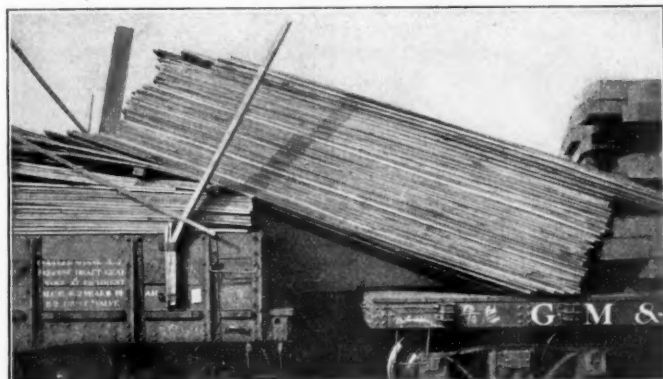
2. Manganese steel rails become distorted by spreading and drooping of the head more easily than open-hearth rails, and apparently, also, than Bessemer rails, explained presumably by the low elastic limit of manganese steel.

3. The failures or breakages of manganese rail were extremely high and seemed to consist mostly of transverse cracks in the head, starting from the surface, resulting finally in pieces of the head breaking out. The manufacturers explain these failures as due to faulty manipulation in the early manufacture of manganese rails, which has since been remedied. Immediately after rolling, while still very hot, it is necessary to quench the rails in water, which operation was not at first handled in an entirely satisfactory manner.

Methods of Loading Lumber in Open Top Cars

Failure to Prevent Shifting of Lading Results in a Serious Waste of Equipment and Labor

THE UNPRECEDENTED MEASURES restricting the use of open cars which have been taken by Judge Lovett, director of priority, show the importance of securing the maximum service from this class of equipment. The tonnage of coal that will have to be moved this winter will break all records and the demand for cars will be greater than



Good Judgment or Good Luck in Making Up the Train

the supply. Gondola cars will, therefore, be urgently needed for carrying coal. On the back haul to the coal mining regions gondolas are used for many commodities, one of the most important being lumber. It is the purpose of this article to show how greater service can be secured from open



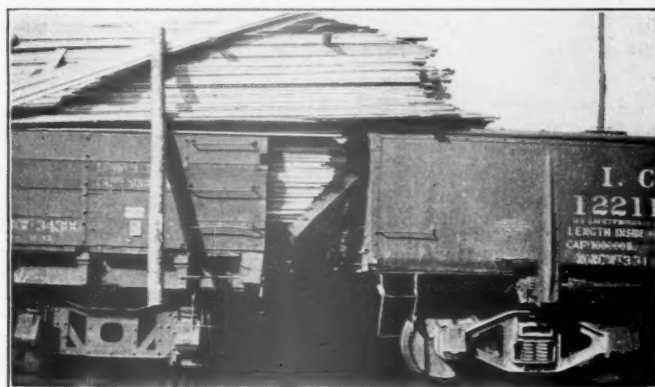
The Transfer Track Is a Busy Place

cars by better methods of loading lumber, when transported in that class of equipment.

The loading rules of the M. C. B. Association, in brief, provide that lumber loaded in open top cars must not extend beyond the end sill of the car unless protected by an idler, nor within 6 in. of the brake wheel. If the load extends above the side of the car, stakes must be provided to hold the lading at the side. The number and size of the stakes depend on the height of the car side, the height of the load, the number of piles making up the load and the method of loading. The tops of opposite stakes must be fastened together with boards or with wire. Lumber of equal thick-

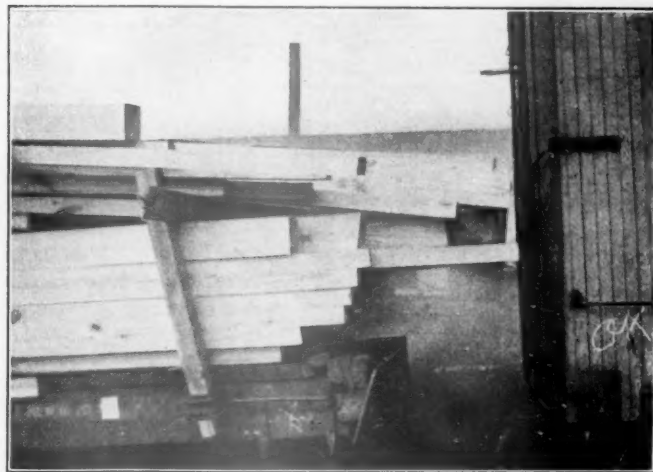
ness must either be lapped or have strips placed transversely between the lading and not more than 30 in. apart vertically. If the shipper so desires strips may be placed crosswise between each layer of dressed lumber. These rules have been in effect for many years. The revisions which have been made from time to time have been of a minor character.

It will be noted that the rules governing the loading of lumber in open cars are based on the assumption that friction will be sufficient to prevent lateral shifting of the load. The adoption of heavier motive power and the increase in the length of trains in recent years has increased the severity



Damaged Equipment Contributes to the High Cost of Transporting Lumber

of shocks in starting, stopping and switching. The result has been that the transportation of lumber loaded in open cars has in recent years been a source of considerable trouble and expense to the carriers. The shocks encountered in ordinary service often cause lumber to shift. If any portion of the load slides beyond the end of the car or comes within

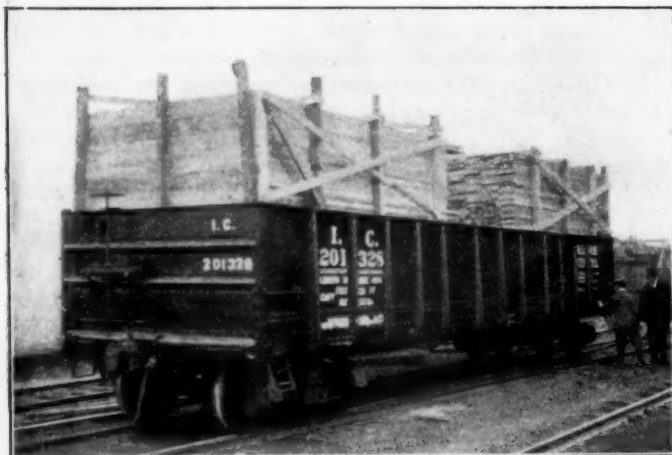


A Load That Will Probably Check Short at Its Destination

6 in. of the brake wheel the car must be taken out of the train and the lading reshaped to conform with the loading rules before it proceeds to its destination. The tonnage of lumber shipped in open top cars is large and the loss involved in this switching and reshaping of loads is a considerable item. Some idea of the trouble experienced in haul-

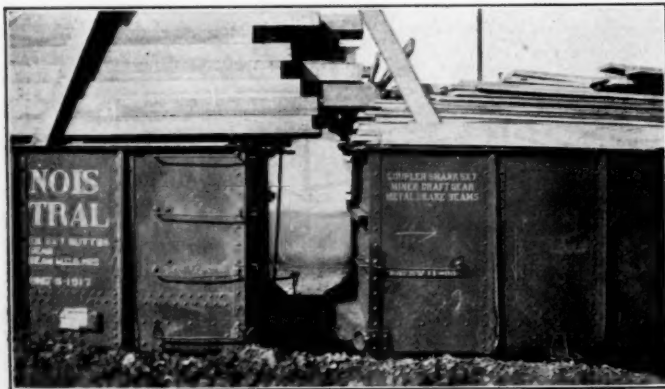
ing lumber in open top cars can be gained by examining the illustrations which accompany this article. All the photographs of shifted loads which are shown were taken at one yard in a single week.

The Illinois Central a short time ago conducted a special investigation in order to determine the loss of service from cars due to the reshaping of loads which had shifted in transit. During a period of three months this road handled 7,926 cars loaded with dressed lumber. The total car days' delay on these shipments amounted to 17,778, an average



Bulkheads on Lumber Cars Keep the Load Where It Belongs

of 2.24 days per car. Had it been possible for the Illinois Central to avoid the delays to cars loaded with dressed lumber during the three months referred to above, the road would have had 194 more cars available for service. It is estimated that it would have secured increased revenues amounting to about \$85,000. In addition to this there would have been a considerable saving due to the elimination of the expense of switching cars and adjusting loads, and claims for damage to lading. The cost of switching was probably about 50 cents a car and the cost of reshaping the load considerably greater. In the month of May alone the cost of transferring and reshaping loads of lumber at Memphis amounted to



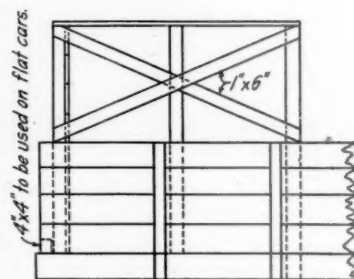
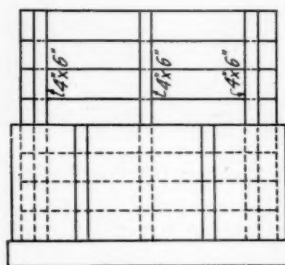
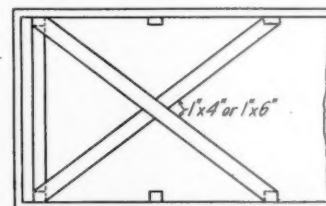
Shifting Is Not Confined to the Smaller Sizes of Lumber

\$39,308. Probably one half of this expense was chargeable to loads on open cars.

While accurate data concerning the amount of dressed lumber shipped in open cars on the railroads of this country are not available, an estimate of the saving of cars that would be effected if the practice of bulkheading was generally adopted will show the importance of the subject. The total lumber traffic of the country in the year 1917 was probably about 160,000,000 tons. Of this amount about 65 per cent or 104,000,000 tons consisted of lumber wholly or partly

dressed, which causes trouble by shifting. Open cars are used to handle probably 25 per cent of the dressed lumber shipped, or 26,000,000 tons. Assuming an average load of 50 tons per car this amounts to 520,000 carloads. As each shipment would require under normal conditions about 18 days from origin to destination, the average number of open cars used in the lumber traffic is 25,600. If an average saving of two days per trip could be secured by bulkheading the cars the number required to handle the traffic could be reduced to 22,800, thus effecting a saving of 2,800 cars.

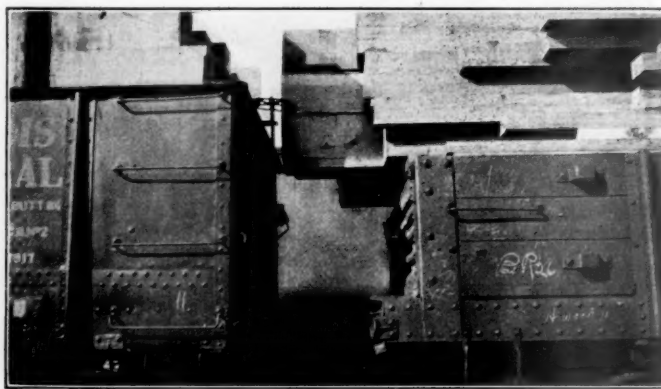
In addition to the saving in equipment there would be fur-



Type of Bulkhead Used on the Illinois Central

ther economies due to the reduction of charges for switching and reshaping of loads and also to the elimination of claims for damage to lading.

While the Illinois Central was investigating the delays due to the shifting of loads, a special messenger accompanied one shipment of 50 cars of lumber from a single company.



Of these 50 cars 22 were delayed three or four days on account of the necessity of reshaping the load. The railroad had experimented with bulkheads placed in the ends of the cars to keep the lumber in place and had found the results of this practice very satisfactory. It was so evident in this case that the delay was due to improper loading that the company from which the shipment in question was received was persuaded to bulkhead their cars. They have continued to follow this practice and delivery of shipments from this company are now made without the delay formerly experi-

enced. Trains of 50 cars have been brought to their destination without having a single car removed or sidetracked for reshaping.

The method of bulkheading which has been in use on the Illinois Central for loads on gondolas or flat cars is shown in the illustration. The end is made up of three upright posts, 4 in. by 6 in., to which are fastened 2 in. by 12 in. boards. The corner post is fastened to the third side post by diagonal strips of 1 in. by 6 in. lumber and similar bracing connects the tops of the posts. In case the bulkhead is used on flat cars, a 4 in. by 4 in. timber is placed crosswise at the end of the car to hold the lower ends of the posts in place.

That shippers are willing to co-operate with the railroads in this matter of bulkheading cars is shown by the fact that one large producer of lumber has adopted the practice while the Southern Pine Association has urged its members to consider the advisability of bulkheading their shipments. The

value and if additional dunnage is required the allowance provided in the tariffs should be increased.

It seems evident that both the shippers and the railroads would benefit by the adoption of the practice of bulkheading open cars loaded with lumber. The savings that would be effected even under normal conditions would justify the measure. At the present time its prompt adoption is of great importance as it presents an opportunity for securing more effective utilization of the car supply.

Tests of Slag Concrete

A SERIES OF TESTS for the purpose of comparing slag, gravel and stone as the coarse aggregates for concrete is being carried on by the Pittsburgh Testing Laboratory, Pittsburgh, Pa., it being the intention to extend

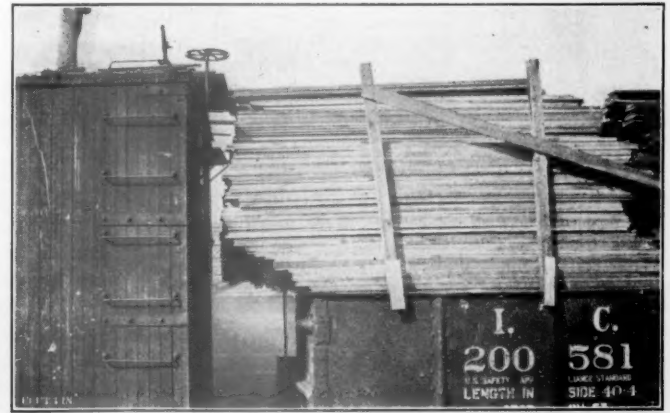
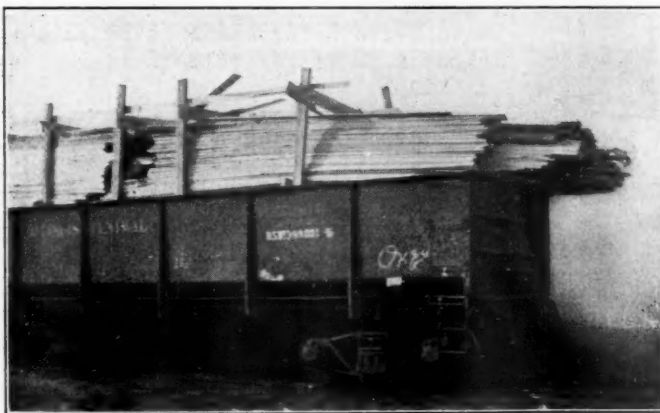


Typical Examples of Shifted Loads

main obstacle to the adoption of the practice is the fact that the shippers object to using so much lumber to secure the load unless the roads make a corresponding increase in the dunnage allowance. The present rules of the three principal freight classifications provide that an allowance not to exceed 500 lb. will be made for temporary stakes, dunnage or supports when required to protect and make secure for shipment

the tests over a period of five years. All the tests made up to the end of the first six months have now been made public and while these are by no means conclusive, they indicate the trend of the results.

The tests were undertaken to secure information relative to (1) a comparison of the crushing strengths of air-cooled blast furnace slag, crushed stone and gravel when used as



Loads of Lumber Going Out "Over the Top"

property on flat or gondola cars upon which carload rates are applied. It has been urged by the shippers that the practice of bulkheading be made mandatory and the dunnage allowance increased to 1,000 or 1,500 lb. The carriers claim that the lumber used in bulkheading has some commercial value and that the shippers should be able to sell it to the consignee. The shippers on the other hand contend that the lumber used for securing loads has no market

the coarse aggregate in concrete; the tests to be made at the end of 14, 30, 60 and 180 days, 1 year, 3 years, 4 years and 5 years. (2) Determination of the granulometric analysis of the material as received, together with other physical characteristics. (3) A determination of the corrosive tendency of sulphur in slag. (4) The effect of sulphur and other elements on the durability of concrete up to the age of five years. (5) The relative strength and durability of

concrete made of high magnesia low lime slag and low magnesia high lime slag.

The cement used in the tests is Alpha portland, from Manheim, West Va., selected by lot from a list of several standard brands. The fine aggregate is sand from the Ohio river, while the coarse aggregates cover nine varieties of slag gathered from plants in various parts of the country, two kinds of gravel, two kinds of limestone, a trap rock and a crushed granite.

The proportions were determined by establishing the leanest mixture which would produce a dense concrete when using the coarse aggregate having the highest percentage of voids, and then using this mixture for all the materials. This led to the use of proportions of one part cement, two parts sand and four parts of the coarse aggregate.

The specimens were made in steel molds to produce cylinders 8 in. in diameter by 16 in. high. A quantity of material sufficient to make 10 cylinders was mixed at one time. Water was added as needed until a "quaking consistency" was obtained, so that the same consistency was secured in each case, regardless of the amount of water used. For this reason, it was not possible to use a mechanical mixer. The specimens were kept in the molds for 48 hrs. and were then stored in damp sand for 35 days. At the end of this time, all specimens were removed and stored in air. Four short pieces of reinforcing steel were embedded in each of two cylinders from every batch for the determination of corrosive tendencies. The results of the compression tests on the cylinders at the ages of 14 days, 30 days, 60 days and 180 days are shown in the table.

RESULTS OF COMPRESSION TESTS ON 8-IN. BY 16-IN. CYLINDERS.

Character of Coarse Aggregate Used.	Compressive Strength in Pounds Per Square Inch.							
	14 days.		30 days.		60 days.		180 days.	
	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.
Gravel	2093	1792	1921	2608	2040	2294	3427	2378
Lime Stone 1840	1720	1758	2442	1950	2174	3846	3014	3343
Trap Rock. 2109	2026	2063	2454	2330	2386	3416	3256	3360
Granite	2308	1980	2122	2334	2230	3258	2760	3043
Slag No. 1. 2594	2380	2484	3127	2999	3075	3460	3268	3365
Slag No. 2. 1998	1897	1941	2770	2343	2525	3008	2815	2930
							3958	3560
							3753	

Note.—The tests for each age covered the same number of specimens. For each age there were six gravel cylinders, six of lime stone, three of trap rock, three of granite, three of slag No. 1 and three of slag No. 2. Nine varieties of slag were used, of which slag No. 1 gave the greatest strength and slag No. 2 the lowest.

Average Net Operating Income for Years 1915, 1916 and 1917

THE ACCOMPANYING TABLES, showing the net operating income and property investment of railroads operating 86 per cent of the railroad mileage of the country, for the years 1915, 1916 and 1917, were introduced in evidence before the Senate Committee on Interstate Commerce last week by Frank Trumbull, chairman of the Railway Executives' Advisory Committee, and are here reproduced for the purpose of showing the amount and percentage of the guarantee proposed to be paid to the roads by the government while the properties are under its control during the war.

The average net operating income for the three years is proposed as the "standard return" to be used as the basis for agreements to be made by the roads with the President. For special cases where an agreement cannot be reached on this basis the bill now pending in Congress provides a method of adjudication by a board of auditors to be appointed by the Interstate Commerce Commission or by the Court of Claims. The net operating income as stated in the tables is computed as that term is used in the Interstate Commerce

SOUTHERN DISTRICT
NET OPERATING INCOME AND RATE OF RETURN ON INVESTMENT FOR THE YEARS ENDED JUNE 30, 1915, 1916 AND 1917; ALSO THREE-YEAR AVERAGE
(Net Operating Income = Operating Revenues Less Operating Expenses, Taxes and Net Balances of Equipment, Joint Facilities and Miscellaneous Rents)

Road	Mileage operated June 30, 1917	Net Operating Income June 30,			Property Investment as of June 30,			Rate of Return - Per Cent				
		1917	1916	1915	1917	1916	1915	1917	1916	1915	3-Year Average 1915-1916-1917	Total
Alabama & Vicksburg	142.78	\$504,837	\$512,607	\$449,985	\$1,678,241	\$1,646,133	\$1,646,133	6.30	6.30	6.30	6.30	Alabama & Vicksburg Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Atlantic & West Point	98.39	387,782	391,141	359,638	4,021,380	3,711,574	3,711,574	6.30	6.30	6.30	6.30	
Atlantic, Birmingham & Atlantic	640.43	668,133	677,131	608,376	18,454,756	17,984,095	17,984,095	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Atlantic Coast Line	4,764.37	12,809,122	10,542,732	10,511,843	123,400,000	179,433,918	179,433,918	6.30	6.30	6.30	6.30	
Carolina, Clinchfield & Ohio	780.91	1,937,461	1,911,970	1,615,619	9,966,662	9,604,638	9,604,638	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Central of Georgia	1,916.76	4,277,182	3,776,272	3,809,254	70,089,507	68,782,937	68,782,937	6.30	6.30	6.30	6.30	
Chesapeake & Ohio	2,379.35	15,463,797	14,268,609	13,283,084	239,044,800	228,241,149	228,241,149	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Coal & Coke	397.30	2,609,079	2,605,854	2,602,021	8,456,573	8,309,745	8,309,745	6.30	6.30	6.30	6.30	
Florida East Coast	756.62	3,094,791	3,217,691	2,339,868	47,793,990	44,507,659	44,507,659	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Georgia R.R. Lessee Organization	307.00	1,245,047	682,683	684,551	5,767,504	3,956,088	3,956,088	6.30	6.30	6.30	6.30	
Gulf & Ship Island	207.56	630,219	740,456	609,497	14,214,689	14,270,083	14,270,083	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Hill, Mobile & Northern	602.39	682,802	745,461	609,497	14,214,689	14,270,083	14,270,083	6.30	6.30	6.30	6.30	
Louisville & Nashville	4,770.75	21,090,971	21,775,729	15,546,264	328,078,000	328,182,952	328,182,952	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Louisville, Henderson & St. Louis	5,070.50	22,316,566	19,800,529	17,310,465	208,585,965	273,982,120	273,982,120	6.30	6.30	6.30	6.30	
Louisville, Henderson & St. Louis	199.80	503,109	342,805	341,404	7,809,437	7,605,712	7,605,712	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Nashville, Chattanooga & St. Louis	1,246.53	4,237,202	3,333,929	3,212,321	39,577,033	37,616,633	37,616,633	6.30	6.30	6.30	6.30	
New Orleans Great Northern	284.50	621,455	679,044	577,356	16,190,991	15,978,861	15,978,861	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Norfolk & Western	2,031.23	24,250,800	24,101,201	20,178,936	279,458,453	254,139,011	254,139,011	6.30	6.30	6.30	6.30	
Norfolk Southern	807.71	1,442,079	1,322,186	1,170,171	31,208,249	31,027,144	31,027,144	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Richmond, Fredericksburg & Potomac	87.68	1,508,046	840,940	1,195,905	9,058,424	8,920,610	8,920,610	6.30	6.30	6.30	6.30	
Seaboard Air Line	3,616.00	7,152,133	6,080,321	6,454,449	162,650,076	179,941,249	166,979,222	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Tennessee Central	294.90	287,497	170,172	163,753	19,787,565	19,780,705	19,780,705	6.30	6.30	6.30	6.30	
Virginian	4,269,313	3,328,302	3,328,302	3,328,302	88,547,359	87,074,899	87,074,899	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Washington Southern	35.57	731,098	327,256	299,249	8,545,146	8,331,021	8,331,021	6.30	6.30	6.30	6.30	
Western Ry. of Alabama	133.43	398,419	310,105	325,607	8,855,880	8,836,492	8,836,492	6.30	6.30	6.30	6.30	Atlantic & West Point Atlantic, Birmingham & Atlantic Atlantic Coast Line Carolina, Clinchfield & Ohio Central of Georgia Chesapeake & Ohio Coal & Coke Florida East Coast Georgia R.R. Lessee Organization Gulf & Ship Island Hill, Mobile & Northern Louisville & Nashville Louisville, Henderson & St. Louis Nashville, Chattanooga & St. Louis New Orleans Great Northern Norfolk & Western Norfolk Southern Richmond, Fredericksburg & Potomac Seaboard Air Line Tennessee Central Virginian Washington Southern Western Ry. of Alabama Yates & Mississippi Valley
Yates & Mississippi Valley	1,305.04	3,016,129	3,080,099	3,800,143	63,873,668	62,913,322	62,913,322	6.30	6.30	6.30	6.30	
Total	32,981.19	126,077,840	116,798,499	76,780,831	2,045,955,704	1,990,122,577	1,948,765,776	6.45	6.37	6.32	6.30	

a. Estimated. *Property investment of Georgia Railroad not available. Figures shown include only net expenditures for betterments to leased property. Rate of return not computed and figures omitted from total.

WESTERN DISTRICT
NET OPERATING INCOME AND RATE OF RETURN ON INVESTMENT FOR THE YEARS ENDED JUNE 30, 1915, 1916 AND 1917; ALSO THREE-YEAR AVERAGE
(Net Operating Income = Operating Revenues Less Operating Expenses, Taxes and Net Balances of Equipment, Joint Facilities and Miscellaneous Rents)

Road	Mileage operated June 30, 1917	Net Operating Income June 30			Property Investment as of June 30			Rate of Return - Per Cent				Road
		1917	1916	1915	1917	1916	1915	1917	1916	1915	3-Year Average 1915-1916-1917	
Arizona & New Mexico	112.24	8468 131	4213 450	4256 296	84 585 811	84 513 571	84 414 332	10.21	4.78	5.13	6.72	Arizona & New Mexico
Atchafalaya, Topia & Santa Fe	11 270.17	49 066 330	43 235 500	34 903 398	42 988 406	42 988 406	42 988 406	7.02	6.30	5.13	6.16	Atchafalaya, Topia & Santa Fe
Beaumont, Sugar Lake & Western	180.30	71 482	4 138 417	4 138 417	4 375 027	4 375 027	4 375 027	1.07	1.07	1.07	1.07	Beaumont, Sugar Lake & Western
Big Horn & Great Northern	364.07	1 385 538	1 385 538	1 385 538	1 204 721	1 204 721	1 204 721	20.41	20.41	20.41	20.41	Big Horn & Great Northern
Chicago & Alton	1 052.65	4 138 874	3 389 528	3 389 528	1 216 657	1 216 657	1 216 657	3.41	2.91	2.91	3.41	Chicago & Alton
Chicago & Northwestern	8 378.81	26 389 101	24 012 595	19 418 280	382 934 545	379 759 342	371 934 060	6.57	6.48	5.22	6.13	Chicago & Northwestern
Chicago, Burlington & Quincy	9 978.21	35 837 072	35 837 072	28 896 831	34 008 645	34 008 645	34 008 645	8.11	7.49	5.42	7.02	Chicago, Burlington & Quincy
Chicago Great Western	1 494.05	3 975 537	3 975 537	3 975 537	1 876 371	1 876 371	1 876 371	2.06	1.90	1.36	1.77	Chicago Great Western
Chicago, Milwaukee & St. Paul	10 214.20	28 162 443	28 162 443	28 162 443	585 066 413	585 066 413	585 066 413	4.71	5.12	4.29	4.71	Chicago, Milwaukee & St. Paul
Chicago, Peoria & St. Louis	255.47	237 085	237 085	237 085	187 865	187 865	187 865	2.87	2.70	0.53	2.03	Chicago, Peoria & St. Louis
Chicago, Rock Island & Gulf	476.75	1 308 171	1 308 171	1 308 171	17 335 038	17 335 038	17 335 038	7.43	5.20	4.06	5.37	Chicago, Rock Island & Gulf
Chicago, Rock Island & Pacific	1 915.31	18 445 861	18 445 861	18 445 861	354 336 379	354 336 379	354 336 379	5.46	4.75	3.52	4.72	Chicago, Rock Island & Pacific
Chicago, St. Paul, Minn. & Omaha	1 018.50	3 371 385	2 465 275	2 465 275	8 267 472	8 267 472	8 267 472	7.02	6.72	5.79	6.42	Chicago, St. Paul, Minn. & Omaha
Colorado Midland	337.44	4 138 573	4 138 573	4 138 573	5 242 446	5 242 446	5 242 446	0.13	0.34	0.08	0.16	Colorado Midland
Cripple Creek & Colorado Springs	114.75	576 659	577 301	483 264	549 075	549 075	549 075	5.47	4.47	3.71	4.51	Cripple Creek & Colorado Springs
Denver & Rio Grande	2 377.78	9 267 222	9 267 222	9 267 222	8 351 346	8 351 346	8 351 346	5.46	5.25	3.71	4.75	Denver & Rio Grande
Denver & Salt Lake	225.45	115 173	2 110 304	2 110 304	4 970 794	4 970 794	4 970 794	0.48	1.75	1.82	1.45	Denver & Salt Lake
Duluth, Missabe & Northern	412.66	7 144 394	5 991 785	2 980 593	5 374 541	5 374 541	5 374 541	9.18	10.25	6.95	8.48	Duluth, Missabe & Northern
Duluth, South Shore & Atlantic	600.35	711 579	743 636	339 054	594 760	594 760	594 760	17.74	15.38	8.40	14.15	Duluth, South Shore & Atlantic
El Paso & Southern	1 028.44	6 078 454	4 207 254	2 330 043	4 237 117	4 237 117	4 237 117	5.46	5.25	3.71	4.75	El Paso & Southern
Fort Smith & Western	259.45	134 988	55 649	39 649	82 371	82 371	82 371	0.48	1.75	1.82	1.45	Fort Smith & Western
Fort Worth & Denver City	454.14	2 545 685	2 028 586	1 084 304	1 884 411	1 884 411	1 884 411	9.18	10.25	6.95	8.48	Fort Worth & Denver City
Fort Worth & Rio Grande	235.22	10 550	4 27 844	23 821	6 083 475	6 083 475	6 083 475	17.74	15.38	8.40	14.15	Fort Worth & Rio Grande
Great Northern	8 176.48	29 243 152	22 232 047	25 044 393	442 108 413	442 108 413	442 108 413	6.50	7.50	6.00	6.70	Great Northern
International & Great Northern	1 159.30	2 452 092	1 157 460	240 754	38 631 598	38 631 598	38 631 598	4.89	2.82	0.49	0.41	International & Great Northern
Kansas City, Mexico & Orient	272.16	4 138 573	4 138 573	4 138 573	22 159 159	22 159 159	22 159 159	0.05	0.05	0.05	0.05	Kansas City, Mexico & Orient
Kansas City, Mexico & Orient of Tex.	465.71	51 191	5 397	4 804 874	8 546 351	8 546 351	8 546 351	5.18	4.35	3.50	4.37	Kansas City, Mexico & Orient of Tex.
Kansas City Southern	886.51	4 287 081	4 287 081	4 287 081	4 287 081	4 287 081	4 287 081	0.13	0.34	0.08	0.16	Kansas City Southern
Los Angeles & Salt Lake	1 154.17	4 055 166	3 701 397	2 457 845	4 314 843	4 314 843	4 314 843	1.46	1.34	0.68	0.88	Los Angeles & Salt Lake
Louisiana, Texas & Navigation Co.	842.47	493 074	411 170	100 848	361 697	361 697	361 697	13.07	12.04	9.46	12.19	Louisiana, Texas & Navigation Co.
Midland Valley	384.00	610 315	425 281	277 188	446 605	446 605	446 605	17.47	16.51	14.71	16.23	Midland Valley
Mineral Range	130.10	70 038	175 146	147 507	147 507	147 507	147 507	3.28	3.28	3.28	3.28	Mineral Range
Missouri & St. Louis	1 044.75	2 753 084	2 841 559	2 841 559	2 841 559	2 841 559	2 841 559	4.02	4.18	3.47	3.69	Missouri & St. Louis
Missouri & St. Paul & S. E. Marie	4 227.51	10 315 161	10 315 161	10 315 161	10 315 161	10 315 161	10 315 161	1.75	1.75	1.75	1.75	Missouri & St. Paul & S. E. Marie
Missouri & North Arkansas	1 911.23	3 525 346	4 351 597	4 351 597	18 043 905	18 043 905	18 043 905	3.83	2.66	3.78	3.46	Missouri & North Arkansas
Missouri, Kansas & Texas	1 764.30	6 734 213	4 351 597	4 351 597	172 149 092	172 149 092	172 149 092	0.87	0.18	2.14	0.85	Missouri, Kansas & Texas
Missouri, Kansas & Texas of Texas	1 791.93	577 708	4 84 415	1 375 788	618 678	618 678	618 678	4.02	4.18	3.47	3.69	Missouri, Kansas & Texas of Texas
Missouri, Oklahoma & Gulf	332.18	57 702	4 228 608	4 228 608	15 033 870	15 033 870	15 033 870	5.81	3.70	3.71	4.42	Missouri, Oklahoma & Gulf
Missouri Pacific	7 433.09	19 280 710	11 608 571	11 608 571	332 026 374	332 026 374	332 026 374	3.77	0.55	0.02	1.36	Missouri Pacific
New Orleans, Texas & Mexico	1 911.23	3 525 346	4 351 597	4 351 597	172 149 092	172 149 092	172 149 092	7.17	4.70	4.93	6.87	New Orleans, Texas & Mexico
Northern Pacific	8 176.48	29 243 152	22 232 047	25 044 393	442 108 413	442 108 413	442 108 413	2.50	2.12	1.61	2.01	Northern Pacific
Northwestern Pacific	507.29	1 433 400	1 394 546	1 394 546	56 335 274	56 335 274	56 335 274	0.49	0.80	0.08	0.49	Northwestern Pacific
Quincy, Omaha & Kansas City	256.90	40 778	31 021	1 921	4 489 425	4 489 425	4 489 425	13.15	13.15	13.15	13.15	Quincy, Omaha & Kansas City
St. Louis, Brownsville & Mexico	549.18	2 050 014	335 028	394 630	303 854 097	303 854 097	303 854 097	3.15	4.87	4.06	4.70	St. Louis, Brownsville & Mexico
St. Louis - San Francisco	4 778.21	15 594 249	13 608 185	11 777 315	10 315 158	10 315 158	10 315 158	4.23	2.99	3.60	4.79	St. Louis - San Francisco
St. Louis, San Francisco & Texas	238.74	4 252 338	3 375 043	3 375 043	71 134 459	71 134 459	71 134 459	6.68	4.63	3.40	4.79	St. Louis, San Francisco & Texas
St. Louis Southwestern	443.10	4 733 043	3 375 043	3 375 043	3 398 036	3 398 036	3 398 036	0.49	0.80	0.08	0.49	St. Louis Southwestern
St. Louis Southwestern of Texas	835.50	1 123 494	507 020	38 307	30 418 204	30 418 204	30 418 204	3.49	1.49	0.11	1.87	St. Louis Southwestern of Texas
St. Antonio & Arkansas Pass	723.80	777 315	315 381	22 477	34 251 428	34 251 428	34 251 428	3.20	3.20	3.20	3.20	St. Antonio & Arkansas Pass
St. Joseph & Grand Island	257.93	494 333	375 150	187 390	303 854 097	303 854 097	303 854 097	2.67	2.04	1.09	1.54	St. Joseph & Grand Island
Southern Pacific & Proprietary Co's	11 085.50	60 525 056	47 505 056	33 141 245	938 845 533	938 845 533	938 845 533	6.17	4.95	3.86	5.01	Southern Pacific & Proprietary Co's
Spokane International	133.51	252 008	146 499	146 499	10 200 105	10 200 105	10 200 105	2.76	1.46	1.45	1.89	Spokane International
San Antonio, Uvalde & Gulf	312.24	143 432	41 941	41 941	4 802 580	4 802 580	4 802 580	3.41	0.89	0.76	1.39	San Antonio, Uvalde & Gulf
Spokane, Portland & Seattle	554.78	2 431 084	1 817 764	1 232 222	61 175 793	61 175 793	61 175 793	4.31	2.97	2.02	3.01	Spokane, Portland & Seattle
Texas & Pacific	1 944.07	5 770 845	3 741 244	2 741 244	112 908 200	112 908 200	112 908 200	2.46	1.34	0.85	1.59	Texas & Pacific
Texas Midland	123.15	72 746	34 741	35 397	3 398 036	3 398 036	3 398 036	2.77	1.98	0.01	1.59	Texas Midland
Tulsa, Peoria & Western	247.70	276 712	398 234	398 234	10 200 105	10 200 105	10 200 105	3.41	0.89	0.76	1.39	Tulsa, Peoria & Western
Trinity & Brazos Valley	348.80	4 342 760	4 342 760	4 342 760	11 785 091	11 785 091	11 785 091	4.17	2.13	0.88	2.05	Trinity & Brazos Valley
Union Pacific	7 868.00	44 714 255	40 837 400	30 150 254	583 035 134	583 035 134	583 035 134	7.67	7.16	5.31	6.72	Union Pacific
Victory, Brownport & Pacific	171.47	9 347 615	8 328	8 328	9 347 615	9 347 615	9 347 615	3.41	0.76	0.76	2.28	Victory, Brownport & Pacific
Western Pacific	950.41	3 094 978	1 973 455	628 034	85 637 005	85 637 005	85 637 005	2.43	2.43	2.43	2.43	Western Pacific
Wichita Valley	254.90	143 535	131 166	175 305	5 499 531	5 499 531	5 499 531	2.43	2.43	2.43	2.43	Wichita Valley
Total	130 249.80	474 337 651	414 368 820	314 512 599	7 955 590 026	7 955 590 026	7 955 590 026	5.96	5.32	4.10	5.14	Total

d Deficit. * Includes Brownwood North & South and Paris & Great Northern.

EASTERN DISTRICT

NET OPERATING INCOME AND RATE OF RETURN ON INVESTMENT FOR YEARS ENDED JUNE 30, 1915, 1916 AND 1917; ALSO THREE-YEAR AVERAGE
(Net Operating Income = Operating Revenues Less Operating Expenses, Taxes and Net Balances of Equipment, Joint Facilities and Miscellaneous Rents)

[illegible]

d Deficit.

Commission monthly report forms and not according to the modified definition given in the bill, which excludes "miscellaneous rents." The tables were prepared before the bill

RATE OF RETURN OF AVERAGE NET OPERATING INCOME FOR THREE YEARS, 1915 TO 1917, COMPUTED ON THE BASIS OF AVERAGE PROPERTY INVESTMENT

District	Average property investment three years a	Average net operating income three years b	Rate of return c=b÷a
Eastern District	\$6 798 489 504	\$355 402 491	5.23
Southern District	1 994 988 328	109 739 400	5.50
Western District	7 804 087 319	401 072 993	5.14
All Roads	16 597 565 151	866 214 884	5.22
PROPERTY INVESTMENT AS OF JUNE 30, 1917			
District	Property investment June 30, 1917 d	Average net operating income three years b	Rate of return e=b÷d
Eastern District	\$6 968 721 271	\$355 402 491	5.10
Southern District	2 045 956 704	109 739 400	5.36
Western District	7 955 580 026	401 072 993	5.04
All Roads	16 969 258 001	866 214 884	5.11
ESTIMATED PROPERTY INVESTMENT, AS OF DECEMBER 31, 1917			
District	Estimated property investment December 31, 1917 f	Average net operating income three years b	Rate of return g=b÷f
Eastern District	\$7 073 000 000	\$355 402 491	5.02
Southern District	2 085 000 000	109 739 400	5.25
Western District	8 045 000 000	401 072 993	4.99
All Roads	17 203 000 000	866 214 884	5.04
MILEAGE REPRESENTED			
56 979.57 of a total of 64 750 miles in the Eastern District or approximately 81.1 per cent			
32 693.12 " " " " " Southern " " " " " 49.7 " "			
150 249.88 " " " " " Western " " " " " 91.2 " "			
221 922.64 " " " " " United States " " " " " 86.0 " "			

was introduced, but the variation for any road is negligible because the total effect of this item for all the roads is less than \$3,000,000.

Freight Operations for October

REVENUE TON MILES OF FREIGHT transported by the railroads of the United States in October increased 5.3 per cent, as compared with October, 1916, according to the monthly report of freight operations compiled by the Bureau of Railway Economics. Freight train miles decreased 1.4 per cent, car miles decreased 3.8 per cent, and locomotive miles decreased .9 per cent, the tonnage per train having increased from 639 to 682 and the tonnage per car from 24.9 to 27.7. The average miles per locomotive per day decreased 1.6 per cent, from 70.9 to 69.8, and the average miles per car per day decreased 7.1 per cent from 28.3 to 26.3. The decrease in miles per car per day is shown in eastern, western and southern territory. The revenue ton miles per freight locomotive show an increase of 4.6 per cent and per freight car of 1.9 per cent. The percentage of locomotives in shop or awaiting shop decreased from 14.4 to 13.3 and the percentage of freight cars from 5.8 to 5.6.

The combined figures for the seven months, April to October, show an increase of 12.6 per cent in revenue ton miles, or from 214,381,000,000 to 241,356,000,000. The tons per train increased from 626 to 674, or 7.7 per cent, and the average mileage per locomotive per day from 66.5 to 68.8. The average mileage per car per day increased from 27.5 to 27.7 and the percentage of empty car miles from 30 to 30.3. The revenue ton miles per freight locomotive increased from 6,907,519 to 7,674,521, or 11.1 per cent and per freight car from 93,622 to 102,854, or 9.9 per cent.

The Railways of Great Britain After the War*

The Problem of Employees' Wages; The Need for Reconstruction; Possibility of Nationalization

AMONG THE PROBLEMS that will present themselves for settlement at the end of the war, not the least is the future of those industries of which the Government has taken control—railways, shipping, canals, mines, etc. Each of these subjects will present a series of difficulties, but it is safe to say that none more than that associated with railways. The propagandists of nationalization will, no doubt, be much in evidence with appeals to the state to retain control of all these utilities, but it is hardly likely that any change from pre-war conditions will be seriously considered, except in connection with railways and canals. We associate the two because they are so closely related that whatever is decided in the case of one will, almost certainly, apply equally to the other.

Railways, however, present a series of exceptional problems, which may be enumerated as follows: (a) How to meet the higher wages now being paid to the staff; (b) reconstruction, i. e., the restoration of the property to pre-war conditions; (c) the increased cost of labor and material for the upkeep and operation of the railways; (d) the success which has attended the operation of the railways since they passed under the control of the state at the outbreak of war; (e) that many directors, shareholders and officers have become tired of the constant appeals of traders and railway servants for concessions, and would, therefore, be glad enough to see the railways taken over by the state; and (f) the need of reform in British railway methods, in order to

cope with the commercial efforts that will be made when the war is over.

Some of these points are so obvious that we need not comment upon them; others call for enlargement. One can, however, be disposed of in a few words. It is that which relates to the operation of the railways since the war broke out. The very success which has attended the working of the railways since August 4, 1914—in the movement of naval and military men, material and stores; in the manufacture and supply of military material; in the provision of locomotives, rolling stock and track for use overseas, and in keeping the railway service at, all things considered, a remarkably high standard—may quite likely lead to their undoing, as many people labor under the belief that the railways are at present being run by the state. This, as our readers know, is not the case. All the railways are under the control of the Railway Executive Committee acting on behalf of the state, and, in accordance with the empowering Act of 1871, they are being paid compensation for the possession and use of them. But this control is mainly directed to co-ordinate the movement of government traffic and to simplify the question of finance that necessarily arises from the control.

There is, except as regards finance, very little interference by the Government with the Railway Executive Committee, and—except in the same matter and when uniform action is necessary—by the Railway Executive Committee with the railways. To give to the state credit, therefore, for the suc-

* From The Engineer, London, November 30, 1917.

cessful operation of the railways during the war is to give praise where it is not due. But in any case the present control cannot be continued indefinitely. The Act of 1871 sanctions it only when "emergency has arisen," and the Secretary of State's warrant for possession has to be renewed every week. Nor, fortunately, can the railways pass into the possession of the state without the sanction of Parliament. Many hold the mistaken view that the Gladstone Act of 1844 gives the Government power to take over the railways. All that that act sanctioned was the purchase of any railway thereafter authorized. Railways made or authorized prior to that session were excluded, and whilst the terms of purchase were laid down in the act they were only definite in the case of those companies whose "clear annual profits divisible upon the subscribed and paid-up capital stock of the said railway, upon the average of the three then last preceding years, shall equal or exceed the rate of ten pounds for every hundred pounds of such paid-up capital stock." Those companies which have paid less than 10 per cent—which means all of them—may take their claim to arbitration. Finally, it is distinctly laid down in section 4 of the act that Parliament must again consider this question, as the necessary funds must first be provided. On the abstract principle of government ownership, there has been no change in public opinion; on the contrary, the high authorities who inquired quite recently into the future of the Canadian railways, said "Our personal belief is strong that, in normal circumstances, railway enterprise is a matter best left in private hands, subject to proper regulation by the Government. Were we asked to advise in the case of the railways of the United Kingdom or the United States, which have been constructed by private companies, with money found by private investors, we should give effect to this belief." It must not be forgotten also that practically every witness in any way associated with commerce who appeared before the Royal Commission of 1913-14, presided over by Lord Loreburn, which inquired into the relations between the railways and the state, was emphatically opposed to the state ownership of railways.

Where the idea has gained ground is in the labor party and, without doubting the sincerity of that party's opinions, it is fair to assume that the success which has attained its applications for increased pay has suggested that, with the state instead of private companies to deal with, the condition of labor would be better. The Railway Review—the organ of the National Union of Railwaymen—said in its issue of November 16: "If it is not intended to work the British railway system in the future as a single entity in the possession of the state, it will be the business of the National Union of Railwaymen to declare that railway workers object to the railways and railway owners returning to the pre-war status. A return to pre-war conditions of railway control and management will not be to the advantage of railway workers and will be detrimental to the national welfare."

Unfortunately, it is no longer a question as to whether or not the country would be the better by state ownership. The war has brought other conditions to bear on the subject, and it is now the question whether the companies could revert to their former conditions. A few brief remarks will soon put our readers in a position to judge as to this possibility. The main point to remember is that in the year 1913 the railway companies had a net income, including the balance brought forward and a small appropriation—£28,000—from reserve, of £53,268,000. After paying the interest on loans and debenture stock, miscellaneous other first charges and appropriations to reserve, there were paid £17,239,000 in interest on guaranteed and preference stocks and £17,705,000 on ordinary stock, leaving £1,159,000 to be carried forward. As roughly two millions of this sum belonged to the Irish railways which, in this matter, are outside the question, it may be taken that the divisible

profits of British railways, under pre-war conditions, were thirty-five million pounds.

If, and when, the railways revert to private ownership, one question to consider—if not already disposed of—is the payment of the increase in wages. In August last it was stated that this increase cost twenty-five millions a year. The five shillings a week since granted to the enginemmen by the Committee on Production, and the same amount given by the government to the other men, will bring it up to thirty-three millions, a sum which, alone, would swallow up all the profits. But that is not all. There is the higher cost of material. How much it will be we cannot even estimate, but allowing for an increase of 5s. per ton in coal alone, three-and-a-half million pounds a year would be required to meet the increase. Again, to cope with the increased trade that may reasonably be hoped for, considerable capital expenditure will be necessary. If the credit of the railways be impaired, where is the high rate of interest—supposing the money could be borrowed—to come from?

It is very easy to talk about raising the rates and fares to meet the increased expenditure. To raise fares would, considering the services rendered, be quite justifiable, and would appear to be called for. But to raise rates is to cripple trade, which has other burdens sufficiently heavy to bear. British railway rates are, on the whole, higher than those elsewhere. The necessarily short haul and the numerous companies—each of whom is entitled, in the case of traffic passing over its line, to charge as though the traffic initiated on its line—are partly responsible for this fact, but the main reason is the senseless competition of former, but yet comparatively recent, days. No increase in the existing rates could be obtained without a struggle. Some rates could be raised to the maximum, but even they would certainly be challenged before the Railway and Canal Commission. The government might promise legislation, as at the railway strike of 1911, for an all-round advance, but the experience gained on that occasion would prevent such a step being taken. When it is remembered that the bill sanctioning what is now known as the 4 per cent increase, was determinedly opposed by the government's own supporters, and that it was only secured by Mr. Asquith saying that the government could not go back on its word, it is safe to say that the chances of the railways passing into the hands of the state is more likely than an increase in rates.

The whole problem is amongst the most difficult conceivable, and it is further complicated by the possible addition to the thirty-three million pounds for wages by another large sum as a consequence of the demand for an eight-hour day. It must not be assumed that because this demand was much in evidence in August, that it relates to enginemmen alone; the National Union wants eight hours for its 350,000 or so members. Then there are the questions of arrears of maintenance and renewal of track, locomotives, rolling stock, etc.; the rehabilitation of the workshops to their normal condition for railway work; the return or replacement of locomotives, wagons and track sent overseas; the re-employment of railway servants who have been crippled; the reopening of stations and branch lines now temporarily closed, which, although not earning a profit, could not be kept shut without laying the railway company open to a charge of withdrawing facilities; the future of privately owned wagons, etc. The government has, therefore, done wisely in calling in the aid of authorities in the different spheres to advise them on these problems. These gentlemen, as we understand Sir Albert Stanley's answer in the House on the 14th inst., do not constitute a formal committee. The different aspects of the whole question are each to be considered by the two or three experts on that particular subject. The result of their labors is, Sir Albert added, to come before the House before any final arrangements are made.

Senate and House Committee Railroad Hearings

Roads Ask Standard Rate of Return Computed on Basis of Property When Taken. Want Time Limit

WASHINGTON, D. C.

BOTH THE HOUSE AND SENATE committees on Interstate Commerce devoted all of last week and part of this week to hearings on the administration bill prescribing the conditions governing the government's control of the railroads during the war.

A majority of the members of both committees who indicated their attitude by their questions evinced a desire to treat the roads fairly. Many of them, however, showed a reluctance to accept the reasoning of the railroad witnesses that the compensation should be based on the year 1917, or the average of 1917 and 1916, as representing the earning capacity of the roads at the time they were taken, rather than the average of the three years 1915, 1916 and 1917, which is reduced by the inclusion of such an unfavorable year as 1915. Many of the committee members seemed inclined to feel that 1916 and 1917 were abnormally good years, at least sufficiently so to offset one lean year, and that the three-year average represented both the ups and downs of the fortunes of war.

Senator Cummins, in his usual suave manner, appeared the most hostile to the plan proposed by the President and asked most of his questions for the purpose of trying to tear down the arguments made by the witnesses. He was clearly opposed to guaranteeing the average net operating income and indicated a preference for what he might consider a "reasonable" return on a "fair" valuation of the property, or on the market value of the securities. While the railroad men stated the net operating income in comparison with the property investment, he insisted on having it compared with the capitalization and even made some efforts to drag in an inference from the tentative valuations made by the Bureau of Valuation of the properties of six small roads.

Many of both senators and representatives appeared to agree with the contention of the railroads that Section 13 of the bill should be amended to provide a definite time limit for the continuation of government control after the war instead of leaving it in effect until Congress shall order otherwise.

The railroad witnesses had pointed out that the property investment at the time of the taking over of the roads was about \$240,000,000 greater than on June 30, 1917, and much greater than that of the plant which had produced the three-year average of net operating income. They also expressed the opinion that most roads would be able to reach a speedy agreement on whatever basis is selected, and that only a comparatively few roads in special circumstances would have to take their claims to court. Whenever the proposed guarantee was suggested as a possible basis of compensation in the event of government ownership, however, they promptly insisted that what might be considered a fair rental basis in war time would not be a satisfactory measure of the purchase price.

Commissioner Anderson Before Senate Committee

The Senate committee heard railroad witnesses first. The opening testimony of Julius Kruttschnitt, chairman of the Southern Pacific, was reported last week. The House committee began by hearing George W. Anderson, of the Interstate Commerce Commission, who was the principal author of the bill, and who explained in detail the purpose of its various provisions. On Friday, Mr. Anderson repeated his testimony before the Senate committee and Mr. Kruttschnitt and Alfred P. Thom, counsel for the Railway Executives'

Advisory Committee, transferred their attentions to the House committee.

Mr. Anderson said that the average net operating income of the three years ending June 30, 1917, had been selected as representing a fair and practical basis of compensation for the majority of the roads, taking everything into consideration, and that a method had been provided for adjudicating special cases. He said the average of a five-year period had been considered and discarded because it was regarded as being too low to give a fair return on the intrinsic value of the securities. He had considered the plan of basing compensation on the market value of the securities, "but found that it led into a blind alley and dropped it."

Asked by a representative if the plan proposed would not lead to a rise in the market quotations of bonds, Mr. Anderson said he certainly hoped so. When he qualified as a member of the Interstate Commerce Commission recently he had been obliged to dispose of his holdings of railroad securities, and had taken a loss of about 50 per cent, and he thought something ought to be done to put the market prices somewhere near the real worth of the securities. Estimating from the actual figures of Class I roads, Mr. Anderson placed the three-year average of net railway operating income at \$935,000,000 for all carriers, including switching and terminal companies, and excluding the Pullman company, express companies and private car lines. This is 5.31 per cent on an average investment of \$16,873,832,797. The percentage for the three years he gave as 4.14 for 1915, 5.84 for 1916 and 5.91 for 1917. The property investment for 1917 was estimated at \$17,250,000,000. From the \$935,000,000 estimated guarantee, he said, would be deducted the war taxes, estimated by the railroads as between \$50,000,000 and \$90,000,000, because it was felt that the railroad security owners should bear their share of the war taxes instead of charging them to expenses. He opposed placing any definite time limit on the period of government control, saying that a period of readjustment would be necessary, that this Congress could not bind future Congresses, and that although he was not an advocate of government ownership certainly the former status ought never to be re-established.

Asked by members of the committees whether he considered the book value a fair measure of the cost of railroad property, he said that it must be treated with caution, but could be used safely for purposes of comparison. For some roads it probably represented an understatement and for others an overstatement of the true condition.

He referred to the proposed guarantee as a rental which must be paid on the basis of the actual earnings in spite of the lack of uniformity as between different roads, but said he proposed to submit an amendment to prevent paying a premium to a road that has increased its net earnings by "skinning" its property by inadequate maintenance and depreciation allowances and to prevent penalizing a road that has made adequate allowances. He also said that the bill was intended to provide for a maintenance reserve in case it becomes impossible properly to maintain a road currently.

Several senators argued vigorously with Mr. Anderson on the question raised by Section 13.

"The government ought to fix the term of the contract when it makes the contract," Senator Kellogg insisted, but Mr. Anderson could not agree with him.

"If we think now that we want government ownership we ought to determine it right now and put it in the bill," said

Senator Underwood. "If we don't, we should set a definite period. Some of these railroads will have their compensation fixed in the courts and if a court construes the taking as for an indefinite period it may fix the compensation on that basis."

Mr. Anderson asked if he thought a court would fix a higher rate of compensation in one case than in the other. "As Section 13 is drawn now," replied Senator Underwood, "it is an absolutely indefinite taking of property and a railroad could enter suit for the value of its property, and the court would probably fix the compensation on that basis, but if a definite period were specified the court would probably hold that the rental value would be just compensation."

Both Senator Underwood and Senator Townsend contended that the provision "until Congress shall thereafter order otherwise" in Section 13 means nothing more than is implied in every bill and leaves the period of government control entirely indefinite.

"The purpose of this plan is to get better railroad service, is it not?" asked Senator Watson.

"That and to stabilize market conditions," said Mr. Anderson.

"Will Section 13 enable us to get any better service?"

"I can't say that it will have any effect either way in that respect," replied Mr. Anderson. "The only thing I claim for Section 13 is that it offers less opportunity for difficulty and danger than any other plan." He added that he had yet to hear any railroad lawyer say he wanted government control to be terminated immediately after the war and that to set any definite time after the end of the war would be to "hold a stop watch on Congress." He said that railroad men agree that legislation will be necessary after the war to deal with the new conditions which will have been created by the government's possession of the roads, such as the financial readjustment, the changed status as to competition, the results of pooling traffic during the war, the effect on the traffic department organization, and the disposition of government rolling stock.

Senator Cummins thought there ought to be a time limit but for another reason, that the President should not be allowed to retain after the war such great powers over the commerce of the country as he will have during the war, and that when peace is restored the question of what shall be done with the railroads should be turned over to some proper tribunal.

"Congress might not be able to agree on a plan for ten years," he said.

In reply to a question by Senator Pomerene Mr. Anderson said he thought Congress would be better able to decide what ought to be done two years from now than it is today.

Senator Cummins said that the bill provides for paying to the railroad owners not only the amount of their dividends and interest but also any surplus they had earned during the last three years, and provides for the payment of a return on any of that surplus that may be invested in the property. "The Interstate Commerce Commission has been on both sides of that question and is now on neither side," he said, "but why have you attempted to settle it in the bill that the railroads may collect rates to pay a return on invested surplus?"

"I was not of the opinion that the bill would prejudice that question in any way," replied the commissioner. "If I thought it would I would never stand for it."

Senator Cummins suggested that the guaranteed return might be reduced by any excess over "adequate" dividends and interest and the surplus devoted to improvements with a provision that rates should not be based on that investment. He promised to draft a proposed amendment along that line.

Mr. Anderson's testimony was concluded on Monday but he said he wished to redraft the bill in some particulars and may be recalled later. The President is understood to have

let it be known that he desires early action on the bill but it is predicted that a long contest is to be expected.

Mr. Kruttschnitt Before Senate Committee

"The railroad officers of the United States have made up their minds to be good soldiers whatever happens and to support the President's policies as to the management of the railroads to the best of their ability," declared Julius Kruttschnitt, chairman of the Southern Pacific Company, before the Senate committee.

Senator Smith had asked the witness if, assuming that the present organizations of the roads may be maintained, government control will not result better in meeting the exigencies of the situation than private control.

"We have felt that the railroads could have done a great deal more under their own organization," replied Mr. Kruttschnitt, "if they had had greater support and assistance from the government, but we realize as a practical matter that there was certain assistance that probably couldn't have been given to the roads under private ownership. Therefore, we have no criticism to make and we accept what has been done because it was the opinion of the Commander-in-Chief that it was necessary and we will work as loyally under government control as in the past. We feel that the President must have had good reasons for what he did and we intend to support his policies to the best of our ability."

"Personally, I think what has been done was done for the best and we propose to do our level best to make the existing conditions successful. I have exhorted our officers to work as hard under the new conditions as they did for the shareholders, and I haven't the slightest doubt that they will do it."

Small Roads Handling Increased Business

Alton C. Dustin, of Cleveland, president of the Portsmouth & Western Railroad, who described himself as "not a practical railroad man, but a lawyer who in an unguarded moment financed a railroad," testified to call the attention of the committee to the effect of the compensation provisions of the bill as applied to small roads that are now handling an increased business. His road in the year ending June 30, 1915, had earned net \$53,000; in 1916, \$62,000, and in 1917, \$147,000, an average of \$87,000, but in the calendar year 1917 it had earned \$244,000. The road is in receiver's hands and cannot borrow money, but it is now meeting an important demand for freight service, and is using the increased earnings to put the road in shape to handle the business. Under the three-year average guarantee it would receive only \$87,000, while it would have to wait for years to get through the Court of Claims money that it needs now to keep in operation. Mr. Dustin suggested an amendment to authorize the President in special cases to authorize additional compensation not exceeding the current net operating income.

Three-Year Average Unfair to Eastern Roads

George M. Shriver, vice-president of the Baltimore & Ohio, testified on behalf of the eastern railroads to show how the average net operating income for the three years ending June 30, 1917, was reduced by the inclusion of the year 1915. In 1915, he said, the net operating income produced a return on the property investment, for the 38 eastern roads, of 4.34 per cent. In 1916 the return was 6.53 per cent and in 1917, 5.71 per cent, making the three-year average 5.54 per cent. However, the investment in property had meanwhile been increased so that, based on the investment on June 30, 1917, the three-year average of net operating income produced a return of only 5.41 per cent, and based on the investment as of December 31, 1917, a return of only 5.33 per cent, which was less than the net operating income of the eastern railroads in 1913, which was 5.36 per cent, to which the Interstate Commerce Commission said in the 5 per cent case was "smaller

than is demanded in the interest both of the public and of the railroads."

The average property investment for the three years for the 38 eastern railroads was \$6,950,412,492. On June 30 it was \$7,116,424,426 and on December 31 it was estimated at \$7,226,000,000, approximately \$110,000,000 having been added during the last six months.

"Nineteen sixteen was the first really good year the eastern railroads had since 1910," said Mr. Shriver, "whereas 1915 was, with one exception, 1914, the worst year the eastern

other place and the railroads are only asking compensation based on what they actually did earn at the time the government took them over."

Mr. Trumbull on Three-Year Average

Frank Trumbull, chairman of the Railway Executives' Advisory Committee, testified before the Senate committee on January 10, showing how the average net operating income for the three years ending June 30, 1917, is reduced by the inclusion of the unfavorable year 1915 to a point below their earning capacity at the time their properties were taken over. In England, he said, when the government took over the roads, it had guaranteed the net income of the year before the war, which was the best year the English roads ever had. He also showed that the three-year average would be unfavorable to roads that are just emerging from receiverships and whose earning capacity was less during the early part of the period than at the time they were taken by the government.

To illustrate this point Mr. Trumbull presented tables showing the income and property investment by roads for companies operating 86 per cent of the mileage of the country. In 1915 the net operating income of these roads was \$665,-



From the Baltimore Sun

Eliza Crossing the Ice

railroads had had in the last 18 years. The net operating income in that year was less for the eastern roads than it was for 1906, 1907, 1909, 1910, 1911, 1912 or 1913, notwithstanding an increase in the investment of over \$1,790,000,000."

When Senator Cummins questioned the accuracy of the book value of the railroads, Mr. Shriver explained that the book value was used only as a basis for purposes of comparison to show the relative rate of return on that basis in the different years, and to show how the average was reduced by the inclusion of the year 1915. He said the railroads were not asking a definite rate of return, but only a compensation based on their earning capacity at the time the properties were taken over.

"In other words," said Senator Underwood, "you ask to have as a basis for the compensation to be adjusted by agreement with the President the same basis you would expect to receive if you were obliged to go into the courts and sue for compensation."

"Why should not the government pay the same rate of return on all properties?" asked Senator Cummins.

"It would be a good thing for the railroads if that were done," replied Mr. Shriver, "but a dollar invested in one place is often more profitable than a dollar invested in an-



From the Youngstown Vindicator

Parents Have a Way of Worrying About Such Things

276,734, or 4.09 per cent on the property investment. In 1916 it was \$952,579,917, or 5.75 per cent. In 1917 it was \$980,788,002, or 5.78 per cent, whereas the average for the three years was \$866,214,884, or 5.22 per cent.

In other words, the three-year average was \$114,000,000 less than the net operating income for 1917 and \$86,000,000 less than for 1916, while the net for 1915 was \$200,000,000 less than the average.

Mr. Trumbull prefaced his statement by saying: "We are not here in an obstructive attitude, but we think we would be derelict in our duty to the owners of these roads

and to you if we did not present the facts as they appear to us."

Senator Poindexter asked: "What is the attitude of your committee toward permanent government operation or ownership?"

"We have not taken any attitude on that," was the reply.

"What is the general opinion in railroad circles?"

"I think as a whole the railroad officers think it would be an undesirable step for the country to take," said Mr. Trumbull.

"What about the interest of the owners of the roads?" asked Senator Poindexter.

"That would depend on the price they would get," replied the witness. "Many of them would be glad to sell to anybody if they could get their price."

Explaining the statistics, Mr. Trumbull pointed out the inequality in the effect of the three-year average on different roads. "For example," he said, "the three-year average for the Chicago & Eastern Illinois, which is in receivers' hands, would be \$3,000,000 less than the net for 1917, for the Atlantic Coast Line it would be \$2,500,000 less, for the Chesapeake & Ohio \$2,300,000 less, for the Illinois Central \$5,300,000 less, for the Atchison, Topeka & Santa Fe \$6,600,000 less, for the Missouri, Kansas & Texas, which is in receivers' hands, \$800,000 less. A most glaring example is presented by the International & Great Northern, which is also in receivers' hands; the three-year average would cut the 1917 earnings in two. Many roads, such as those which have recently been reorganized and those which are in receivership and are yet to be reorganized, would be underpaid by the three-year average."

"The action of the government in taking over the railroads was made inevitable in 1910, when Congress passed the law giving the Interstate Commerce Commission power to suspend any increase in rates," said Mr. Trumbull. "At that time the railroad managers lost their control of their earnings and were rendered unable to increase their rates to meet increased expenses, as any other kind of business does. No one could run a business successfully under such conditions. When that law was passed it became inevitable that some time the government would have to guarantee them." He explained that he was giving his personal views.

Government Regulation Has Broken Down

"Are you in favor of government ownership?" asked Senator Townsend.

"No, we should preserve the benefits of private initiative with possibly some form of government guarantee and some plan by which the government would share in the profits."

Section 13 of the bill, he said, seems to leave the railroad problem in the air indefinitely, and the period of government control should be limited to some definite time after the expiration of the war.

"I believe that before the period of government control expires we will be able to work out some better scheme than we have had in the past. Later on we will want to consider some permanent relation between the government and the railroads."

"Then you think that government regulation of private ownership had broken down," said Senator LaFollette.

"I think the system of regulation had broken down," replied Mr. Trumbull.

Additional Investments Should Be Considered

In discussing the terms of the bill, Mr. Trumbull said that the railroad plant taken over by the government on December 31 was not the same plant that had earned the average net operating income of the three years 1915-1917. It represented \$240,000,000 more on December 31 than

on June 30 and \$934,000,000 more than on June 30, 1915.

"We feel that this bill should make provision, no matter what years are selected, for allowing a return on the additional plant which was turned over to the government. The average net operating income for the three years represents only 5.04 per cent on the investment as of December 31."

The bill should also provide for an adequate tribunal to deal with the questions presented by the roads in special circumstances, he said, such as certain roads that had a deficit for the three years, and that are wondering what their guarantee will be. It is important that Congress shall establish a standard to serve as a basis for agreements with as many roads as possible, but there will be certain roads that will have to resort to a separate adjudication.

Alfred P. Thom Testifies

Alfred P. Thom, counsel for the Railway Executives' Advisory Committee, made a preliminary statement before the House committee, saying that the railways realize fully that the President has been actuated by a purpose to do justice in what he has recommended, and that nothing they shall do or say should be interpreted as an indication of an obstructive attitude or critical spirit. "We believe," he said, "that the principle which the President has recommended as the basis for compensation is the correct principle, and that it recognizes that the rental which the government should pay should represent the equivalent of the value of the use which the owners of the railroad property were able to make of it at the time of the taking by the government—in other words, its earning capacity."

In order to represent the earning capacity of the plant whose use has been taken, Mr. Thom said the compensation should be related as closely as possible to the earnings on the date when the roads were taken.

"In England," he said, "they took the year before the war, undeterred by the fact that that was the best year in the history of the English roads. Our view is that to take the last year would be to go back far enough from the time of the actual taking, and that two years would certainly be enough, but that if you go back three years, to 1915, the result is inadequate, both because that year was an abnormal one and because the plant as it existed on December 31 represented a much greater investment than that of June 30, 1915."

Congress should fix a time limit for the expiration of the period of government control of the railroads after the war, in order to provide for any necessary readjustment, and should authorize the President to terminate the plan sooner, Mr. Thom contended.

Section 13 of the law should be determined before the compensation is determined, he said, because just compensation for a temporary taking would be very different from the compensation for a permanent taking. "I regard Section 13 as meaning government ownership," he said, "and that question should be decided on its merits. If the government is to buy the railroads it should pay the full value of their property, not the mere value of their use."

"Under Section 13 as it stands," he said, "all you've got to do, if you think you've got a good bargain and want to keep these properties after the war, is to do nothing."

"Can't you trust the patriotism of future Congresses?" asked Chairman Sims.

"You would rather rely on the patriotism of the present Congress, would you not?" asked another member of the committee.

"Yes."

"In other words, you prefer to fix the terms of the bargain now."

"We appeal to Congress to fix the tenure," said Mr. Thom. "No one rents a house and leaves the term of the lease to

the will of the tenant, and you should at least be as definite in dealing with one-seventh of the property in the United States. Congress can fix a limit and provide that the President may terminate the contract before that time."

1915 An Abnormally Bad Year

Julius Kruttschnitt, chairman, of the Southern Pacific, testified on January 11 before the House Committee that the three-year average was reduced by the inclusion of the abnormally bad year of 1915, and that the average of 1916 and 1917 would be fairer. He denied that the earnings in those years could be considered abnormally high. To show that 1915 was abnormal he showed that in the fall of that year over 40,000 miles of railroad, or one-sixth of the total railway mileage of the country, were in the hands of receivers.

"Would it not be more fair to take a period of years when more normal conditions prevailed instead of war years?" asked Representative Parker.

"That depends on the time when you take the properties," replied Mr. Kruttschnitt. "If you had taken them in peace times then the return in peace times should be considered, but you should pay the owners the return they were getting at the time you took them."

Mr. Kruttschnitt also emphasized the importance of keeping the railroad organizations intact, with the idea that the properties will be restored to their owners, saying that efficiency will be greatly impaired if anything is done to impair the spirit of emulation between different roads, which he said had been largely responsible for the degree of efficiency they have obtained. While no one should be retained in a position where he cannot perform useful service, he said, he thought that the popular idea as to the possibilities of economics as a result of unification is considerably exaggerated, and he understood that present practices are to be continued except as the director general shall order otherwise.

In reply to questions by Representative Esch, Mr. Kruttschnitt said that if wages are increased during the war it will be extremely difficult to reduce them afterward, and he assumed that the government "will use its influence with the Interstate Commerce Commission to raise rates so as to make the people who use the railroads pay the government guarantee, instead of making all the people pay it by taxation."

"It would leave the roads bankrupt," said Mr. Thom, "if wages should be increased without reference to the earnings."

Railway Employees in Government Service

R. M. Little, chairman of the United States Employees' Compensation Commission, told the House committee that his board had already taken over the railway employees into the government service, by passing a resolution that they are federal employees, but Glen E. Plumb, counsel for the railway brotherhoods, informed the committee that if Congress desired to extend the provisions of the federal workmen's compensation act to the railway employees it would be safer to do so by legislation than to take Mr. Little's word for it. The bill provides for extending the act to cover railway employees, but the War Department has ruled that they are not federal employees.

L. E. Wettling, statistician for the western railroads, testified before the House Committee on Monday, basing his statement principally on the statistics prepared by the Bureau of Railway Economics which had been used by Mr. Trumbull before the Senate Committee.

He was followed by Bird M. Robinson, President of the American Short Line Railroad Association, and other representatives of the short lines, who explained how the bill would affect the smaller railroads, many of whom had deficits in place of a net operating income for the three years ending June 30, 1917. The short line representatives

also appeared before the Senate Committee on Tuesday.

John Barton Payne, Director General McAdoo's legal adviser, testified before the House Committee that many short lines would not be taken over by the government because they were not essential. This, Mr. Robinson said, would be "virtual assassination" of roads left out. All the roads had already received notice that they had been taken over. Commissioner Anderson promised to draft an amendment to safeguard the interests of the short lines.

Following a meeting of railway executives in New York on Sunday the Railway Executives' Advisory Committee forwarded to Washington resolutions urging an amendment of the administration bill to provide that government control shall terminate one year after the close of the war or earlier in the discretion of the President.

A Question of Authority

Representative Lenroot, of Wisconsin, in a speech in the House on Monday, attacked the right of the President to assert in his proclamation or to delegate to the director general of railroads power to set aside orders of the state and interstate commissions and state regulating statutes. He said he was merely opposing the method taken and that if the President desired to exert such power he should obtain specific authority from Congress.

"This is a declaration upon the part of the President," Mr. Lenroot said, "that during the time the railroads of the United States shall be in his possession in behalf of the government all statutes of the United States, all orders of the Interstate Commerce Commission, and all statutes of the various states and orders of state commissions relating to railroads may be suspended by him, acting through the director general whom he has appointed. I confidently assert that no such power has been delegated to him and none can exist unless expressly delegated by Congress. If this power does exist the Interstate Commerce Commission may be deprived of all its functions by the director general except the drawing of their salaries."

"There is no language in this act from which any implication can be drawn that the President is given power to set aside or suspend any existing statutes relating to railroads. I think I am safe in asserting that when this act was passed no member of Congress ever dreamed that under it a power to set aside the laws enacted by Congress would be asserted. While there are certain statutes affecting railroads that will not affect them while in possession of the government, it is not because of any power of the President to suspend them, but only because under the now existing conditions they are no longer applicable."

"It may be claimed that the power to employ the resources of the government to carry on the war carries with it the power to suspend the statutes of the United States if he shall deem it necessary to carry on the war. No such power can be implied from the language used."

It has also been argued that the words "existing statutes and orders" in the proclamation leave in effect only such orders as had already been issued and would act to estop any further orders except with the approval of the director general.

Walter E. Edge, governor of New Jersey and president of the Council of States on Taxation, has sent a telegram to the Vice-President, saying: "I respectfully draw your attention to the importance that any congressional action re governmental railroad control does not interfere with existing methods or privileges of individual states and local units of taxation on railroads, property or receipts, at the present time. This, in many states, constitutes a large portion of state revenue, and to amend in any form would greatly embarrass many states, necessitating new methods of taxation, which at this time would be most burdensome and unfortunate."

Solidification as a Factor in Railway Valuation

A Method Is Suggested for Determining the Appreciation in the Roadbed Due to Seasoning

By H. M. Taylor

Chief Engineer, Ferrocarriles del Norte de Cuba (Cuba Northern Railways Co.), Moron, Cuba.

IN THE *Railway Age Gazette* of October 5 (page 599), Director Prouty of the Valuation Board states that appreciation by solidification cannot be determined. I regard the article of the Director as highly fair as a whole, but disagree with him in this statement. Anything worth knowing can be determined if it is approached with an open mind and patience enough to get at the facts. There are railway systems which have been engaged in railway construction for half a century that know very closely how much more it costs to maintain new track than it does to maintain seasoned track. Unfortunately, our railways and our public have not yet arrived at the position where the Director could accept the statements of these railways, however certain he might be of their correctness, because the public would not regard such information as impartial.

This matter was brought home to me a number of years ago by reading an estimate of the cost of a line, published by one of our most important Western systems in which the officer making the estimate used the phrase "hardening down" and gave a sum that surprised me as the cost. I had had no such experience as the man mentioned, but had been on construction a considerable part of my life and most of the balance of the time I had been engaged on maintenance. The term struck me as good, expressing a condition which I had observed and which had caused me some uneasy nights as well as anxious days. As I was shortly afterward placed in charge of the construction of an important line for the National of Mexico, where another and far more experienced engineer had made the estimate, I looked for his allowance for "Hardening down" and did not find it.

This work was the standard gaging of the National line from Corpus Christi, Texas, via Laredo and the construction of a new line from a place we afterward named Gonzalez to Mexico City. The whole distance was 1,000 miles and the new line was 196 miles long. My work was the building of this new line.

We had been operating the narrow gage line since 1888. I had been with the company since 1890. Our track, though narrow gage, was good; our men remained in the service and there had been few changes among our officers in a number of years. Our vice-president and general manager was E. N. Brown, afterward president, an experienced engineer and a careful, close figuring operating officer, who made us think and plan carefully.

Our standard of maintenance was high, and details of the cost to maintain a given number of kilometers in a given district had been well determined. Sections from Saltillo to San Miguel Allende were 15 kilometers (9.315 miles) long. Six men and a foreman comprised the gang required to maintain and better the line for that distance and they did it. The line from San Miguel to Mexico City, with lighter rail and inferior road bed material, had sections of 12 kilometers (7.45 miles), with the same number of men. This latter line was nearly 20 per cent curved, had 1, 2, 3.85 and 4 per cent grades and crossed a summit a little over 10,000 ft. in elevation and this was the cause of the new line. Our survey gave us a 1 per cent grade south bound and 1.5 per cent north bound, shortened the line about 40

miles and crossed a summit 1,000 ft. lower than the old line. All of us had staked our reputations on what we could do with the standard gage line, the amounts we could save in the fuel bill, in wages and in maintenance as compared with the old line. My report was we would save nothing on maintenance and it was not popularly received.

The line was placed in operation in October, 1903. The track was in good line and surface, and well raised with good slopes from the ends of the ties to insure drainage. We started with twenty-one 15-kilometer sections, with two supervisors, and one road master and one foreman with 8 men to each section. The foremen were all picked men, known to me. The labor was unusually good, even for Mexico, where the most faithful track labor I have yet worked is to be had. The supervisors and the road master were capable. Within one month after we turned the road over to operation with 70-lb. rail, 8 ft. ties spaced 22 in. on centers, E. 40 locomotives and 80,000-lb. capacity cars, the track condition became alarming. Several derailments occurred, and the sand and "tepetate," or volcanic burned clay ballast, which we had put down to cover about 100 kilometers of gumbo, had become insufficient. The one man to 1.164 miles of line could not maintain it, neither could 8 men instead of 6 men to the section. In December we increased the forces to 12 men to the section and put on one extra gang to get out more "tepetate" ballast and put it in. A second extra gang of 40 men with a foreman and an assistant were put on with a regular work train in January, 1904, and continued throughout the year.

January 1, 1905, one of the extra gangs was taken off and in April of the same year the other gang came off for financial reasons. After we had gotten by the fiscal year on July 1, one of the gangs was put back on under the better foreman. This gang was increased to 60 men and they stayed on until April, 1906, when the gang was taken off, and the section gangs reduced to 8 men, for financial reasons. This held until the end of 1906.

In January, 1907, two extra gangs of 20 men and foremen were put on to clear cuts and widen certain of the large fills and lift them back to grade where the settlement had been sufficient to affect the tonnage rating of the engines. Ballasting with broken stone was well under way. This work was charged to betterments and had nothing to do with "Hardening down," the cost of which was still charged to operating expenses. These men continued on the hardening throughout that year, and again in 1908 throughout the year, cleaning slopes, increasing them in many cases, widening fills, and bringing them up to grade ahead of ballasting. This was charged to operating.

Finally in May, 1909, with the track fully ballasted and after 5½ years of operation, the gangs got down to the old standard of the narrow gage line, 1 foreman and 6 men to the section, with no extra gangs. None of these men were engaged at any time in work on stations, on water tanks, wells, etc., for the line started with all stone culverts, stone and steel bridges, steel tanks, and stone stations. Repairs to these, which were almost nothing, were confined largely to additional bridges and painting, and were properly distributed in the accounting. E. 46 locomotives and 100,000

lb. cars had been added. The rail had been changed to 85 lb., and the number of ties had been increased to 2,000 per kilometer, or 20 to a 33 ft., or 10 meter rail. Due to consolidation with the Mexican Central and the diversion of much tonnage to the lighter grade line, the tonnage had doubled. The passenger trains remained the same as in 1904.

In my estimation all the men employed beyond these 6 men and the foreman between 1903 and 1909 were a proper charge to the *cost of property*, or "Hardening down." It takes more men to maintain stone ballasted track than seasoned, well drained, hardened earth track. I was not with the line from March, 1904, to June, 1907, but was with the same system, and kept notes and watch on this piece of line.

For easy calculation suppose the labor received for this period \$1 per day. The cost which should be added would be:

In 1903—October to December				
40 extra gang men.....	326 days @ \$1	\$13,040	\$28,036.00	
42 section men.....	78 days @ \$1		\$3,276.00	
In December				
80 section men				
40 extra gang men				
120 men	26 days @ 1	\$3,120		
1 foreman	26 days @ 2	52		
1 foreman	26 days @ 1.50	39	3,211.00	
			\$6,487.00	
Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		486.53	
Total for 1903.....			\$6,973.53	
In 1904—				
126 section men				
80 extra gang men				
206 men	326 days @ \$1		\$67,156.00	
Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		5,036.70	
1 work train incl. supplies..	326 days @ \$42.50		13,855.00	
Total for 1904.....			\$86,047.70	
In 1905—				
126 section men.....	326 days @ \$1	\$41,076		
40 men	84 days @ 1	3,360		
1 foreman	84 days @ 2	168		
1 foreman	84 days @ 1.50	126		
60 extra gang men.....	163 days @ 1	9,780		
1 foreman	163 days @ 2	326		
2 assistant foremen	163 days @ 1.50	489		
			\$55,325.00	
Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		4,149.38	
1 work train.....	257 days @ \$42.50		10,922.50	
Total for 1905.....			\$70,396.88	

Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		1,898.55	
1 work train.....	78 days @ \$42.50		3,315.00	
Total for 1906.....			\$30,527.55	
In 1907—				
40 extra gang men.....	326 days @ \$1	\$13,040		
42 section men.....	326 days @ 1	13,692		
2 foremen	326 days @ 2	1,304		
			\$28,036.00	
Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		2,102.70	
Total for 1907.....			\$30,138.70	
In 1908—same as 1907				
Total for 1908.....			30,138.70	
In 1909—				
40 extra gang men.....	104 days @ \$1	\$4,160		
2 foremen	104 days @ 2	416		
42 section men.....	104 days @ 1	4,368		
			\$8,944.00	
Supervision	5.5 per cent			
Use of tools.....	2.0 per cent			
	7.5 per cent		670.80	
Total for 1909.....			\$9,614.80	
Total cost			\$263,837.86	
Per kilometer			837.59	
Per mile			1,339.27	

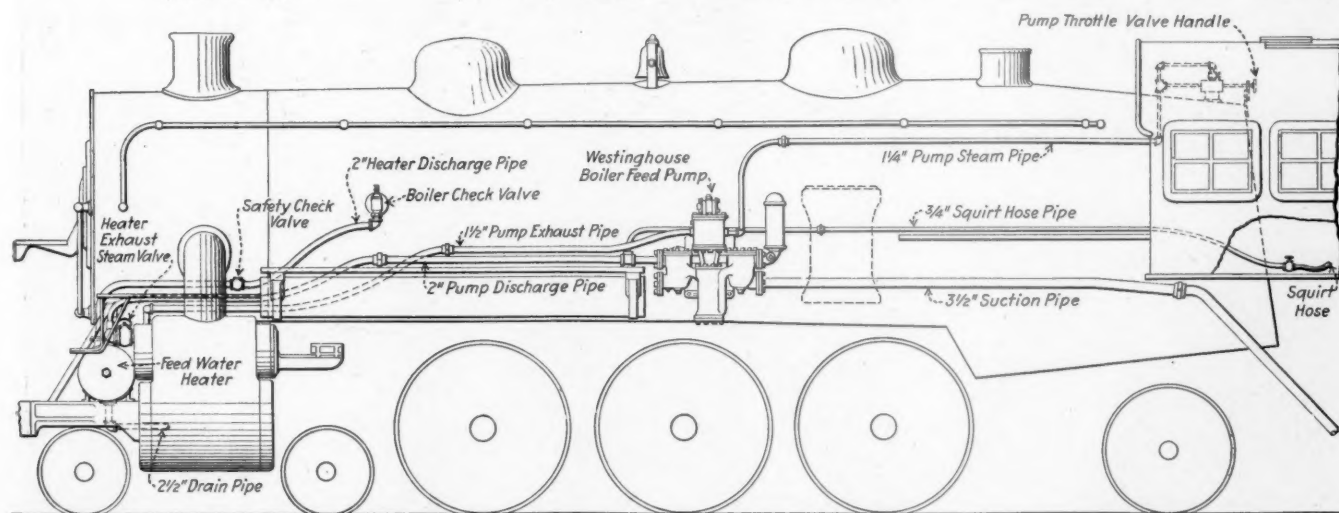
This money was charged against earnings but is, I believe, a proper charge to capital plus interest on the money so used until the "Hardening down" is finished.

The work in question was unusually heavy and at the end of 1909 there were still some signs of settling but the average seemed solid and permanent. The \$1 per day was not the rate paid our men nor are the figures for foremen correct as given in this article though they are not far wrong.

If the commission would appoint one expert engineer to investigate the large companies which have lines long in service and lines newly built, I believe it would be a simple matter to arrive at a factor for determining closely the appreciation due to solidification.

Locomotive Feedwater Heating

THE SYSTEM DEVELOPED by the Locomotive Feed Water Heater Company, New York, for preheating the water before it is admitted to the boiler of a locomotive, uses the exhaust steam taken directly from the steam chest or the exhaust passage in the cylinder saddle, as shown in the illus-



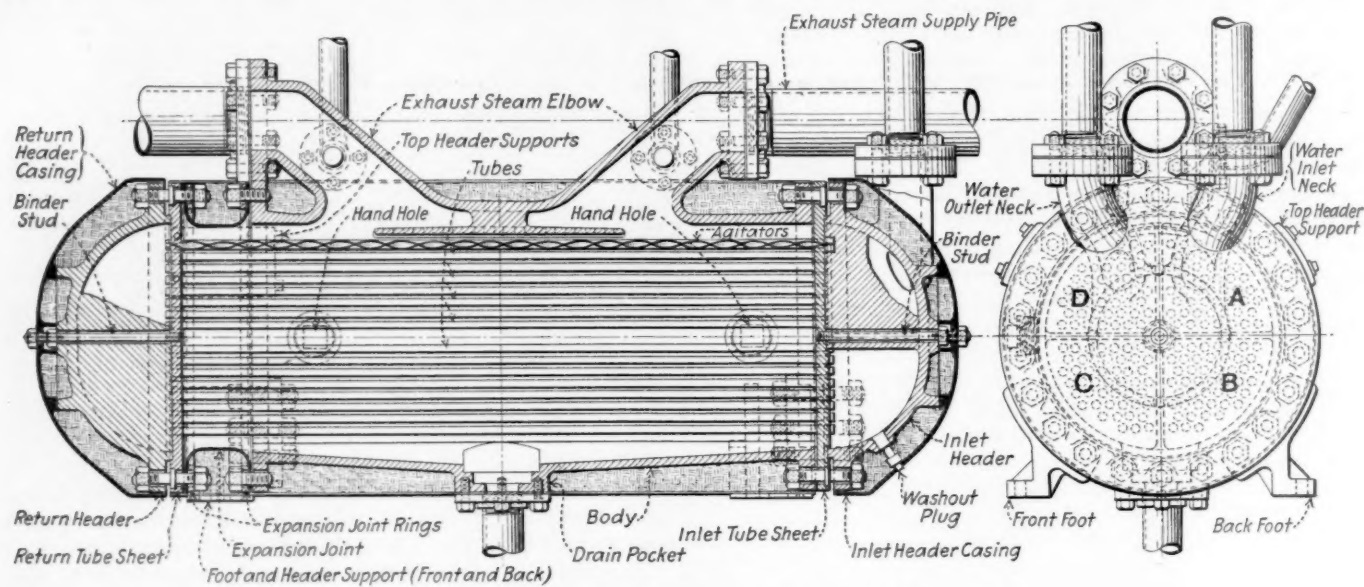
General Arrangement of An Exhaust Steam System of Feedwater Heating

In 1906—				
60 men	78 days @ \$1	\$4,680		
1 foreman	78 days @ 2	156		
2 foremen	78 days @ 1.50	234		
126 section men.....	78 days @ 1	9,828		
42 section men.....	248 days @ 1	10,416		
			\$25,314.00	

trations. The amount of exhaust steam taken is not sufficient to interfere materially with the drafting of the locomotive, but a sufficient amount is taken to raise the feedwater temperature from 150 to 180 deg. The heater is located somewhere

near the cylinders in order to reduce the length of passages between the cylinders and the heater. In the particular case illustrated, it is located directly in front of the cylinders.

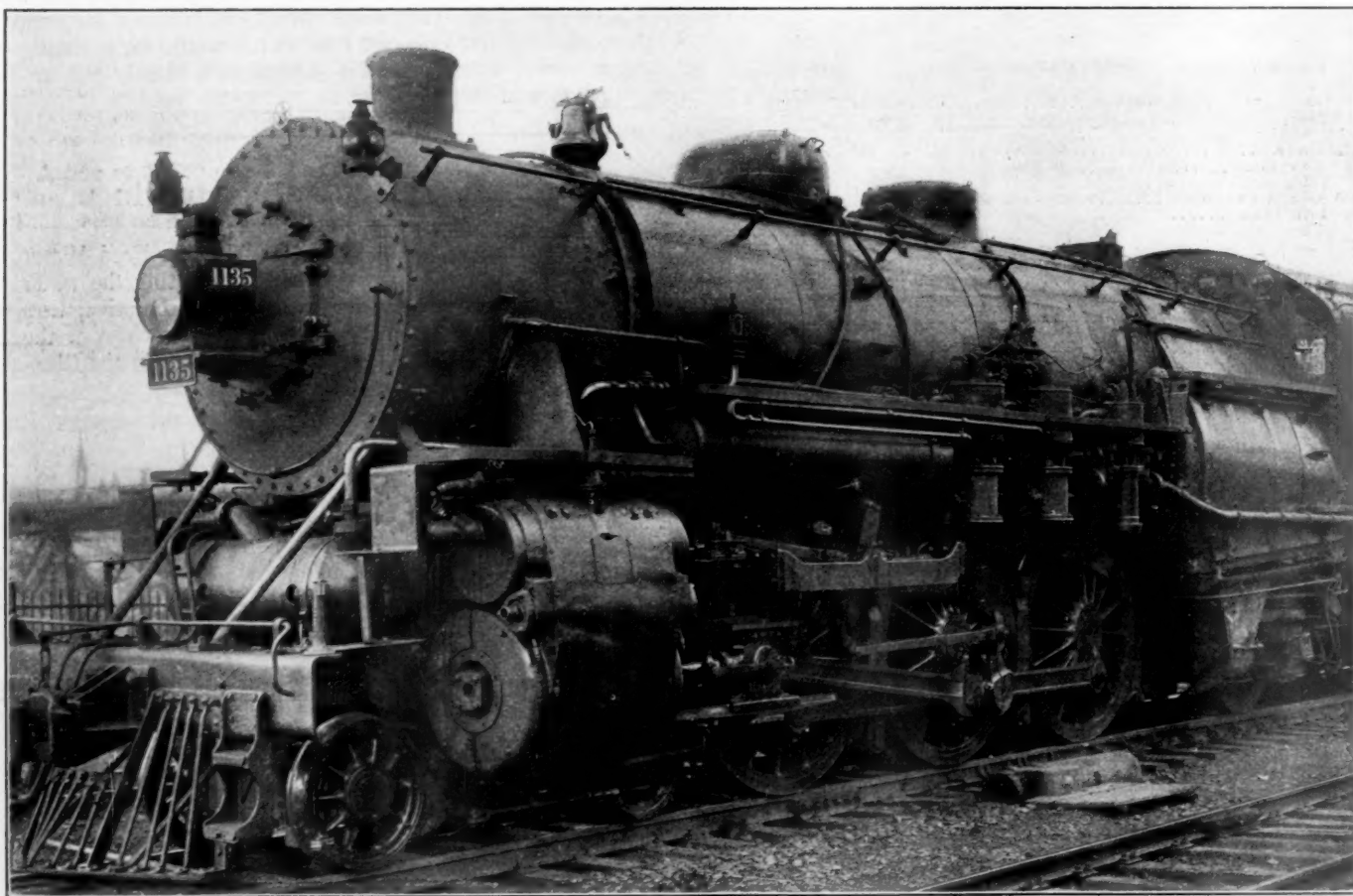
water heating equipment applied to a locomotive well illustrates the system. The pump draws the water from the tank through a $3\frac{1}{2}$ -in. suction pipe and delivers it to the heater



Section Through the Locomotive Feedwater Heater

Pipes extend from each steam chest to the inlet connections of the heater. With this system the injector is replaced by an entirely new water pump, which was developed for this

through a 2-in. pipe. From the heater the water passes through a 2-in. pipe with a check valve to the boiler check. A $\frac{3}{4}$ -in. connection is made in the pump discharge pipe for



Application of Feedwater Heater and Steam Pump to a Locomotive

particular work by the Westinghouse Air Brake Company. It may be located on either side of the locomotive, being applied similar to the application of an air compressor.

The diagrammatic view of the arrangement of the feed-

the squirt hose, thus providing cold water for that purpose. The pump takes steam from the cab turret and the speed of the pump is regulated by a valve at that point. The exhaust steam from the pump passes into the heater to

give up its waste heat to the feed water. The exhaust steam condensed in the heater passes through an opening in the bottom of the heater to a drain pipe that carries it to a point near the ash pan where it is drained to the track.

The pump was modeled after a Westinghouse compressor. The steam end is that used on a standard 9½-in. compressor. The water cylinder is 6½ in. in diameter and is double acting. When running at 80 strokes a minute the pump will deliver 6,500 gals. an hour. There are ten valves, five suction and five discharge, located in the chambers on each side of the pump. Each set of five valves is included in a valve deck which may be easily removed. Tests made with this pump have shown that 50 lb. of water and over are pumped per pound of steam used for operating the pump.

A sectional view of the heater is shown among the illustrations. As indicated by the notations, the exhaust steam from the steam chests is admitted at the top, allowed to circulate around the tubes which contain the feed water, and passes out through the drain at the bottom. The water from the pump passes through the heater four times before it is delivered to the boiler. This is accomplished by means of walls in the headers at the ends of the heater. The header at the right has three chambers formed by a wall extending horizontally across the header at the center and a vertical wall extending up from this wall. The header at the left has one vertical wall dividing it into two parts. The water enters the header at the right in the upper right hand

chamber. It passes through the tubes in quadrant *A* to the header at the left. From there it returns through the tubes marked *B*, then back through the tubes marked *C*, to the header at the left, thence through tubes *D* to the water outlet. By thus passing the water through the heater four times an equivalent length of pipe of 16 ft. is obtained from which the water will absorb heat.

One of the most important features of this heater is the agitators contained in each of the tubes in the heater. These are shown in the top row of tubes in the heater illustrated. They consist of a thin brass corrugated and spiraled strip of metal and their function is to so agitate the water as it passes through the tubes that every particle of it will come in contact with the hot tubes and absorb all the heat possible from the exhaust steam on the outside of the tubes. This agitation also serves to keep the tubes clean and free from scale. The higher the velocity of the cold water passing through the tubes the more violent the agitation and the greater the amount of heat absorbed by the water.

Two types of heater bodies are being used, one cast iron and the other steel plate. When a cast iron body is used the difference in expansion of brass and iron is taken up in a copper expansion joint forming one end of the body. When steel plate is used the difference is taken up by a flexible form of joint formed at either end of the body where it connects to the tube sheet.

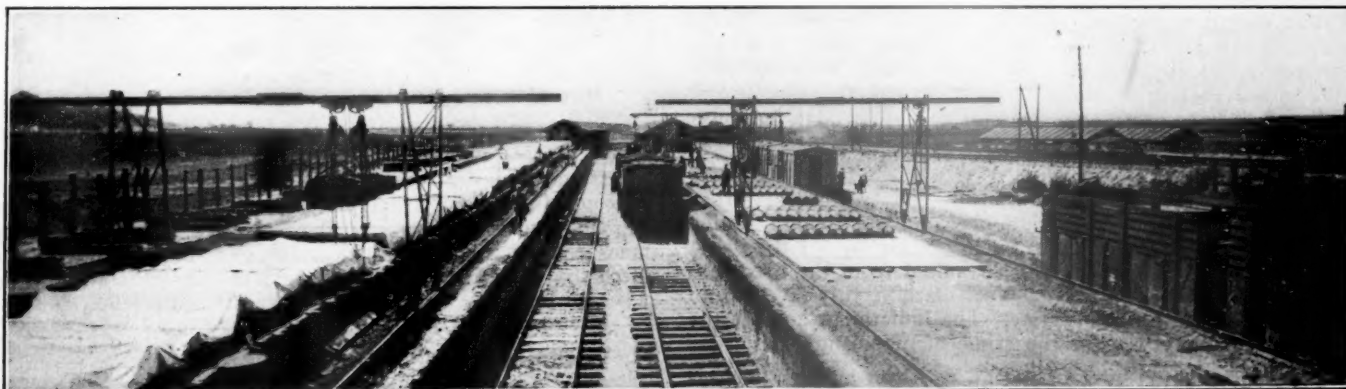


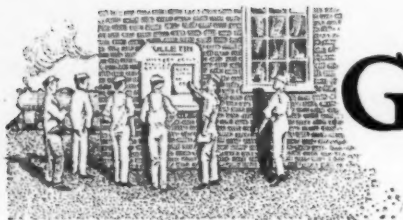
Photo from Central News Service

A More Elaborate French Munitions Depot for Storing the Larger Shells



Photo from Central News Service

The Germans Make Efficient Use of the Light Railway in Transporting Wounded



General News



A walkout of 1,500 shopmen from the shops of the Atlantic Coast Line at Waycross, Ga., was reported on January 8, the grievance being that a non-union pipefitter had been employed; but the matter was settled the next day.

The long bridge over Albemarle Sound, on the Norfolk & Southern, was badly damaged by ice in the storm of January 11 for a length of about 1,000 ft., and the operation of trains had to be suspended to allow the bridge to be repaired.

The governor of Pennsylvania has received an offer from a committee of business men and public officers of Susquehanna, Lackawanna and Luzerne counties, to give to the state for a state highway, the right of way which has been abandoned by the Delaware, Lackawanna & Western Railroad from Clark's Summit to Milford, 33 miles.

A grievance of enginemen on the New York, New Haven & Hartford is reported as having been settled by arbitrators under the Federal law; and the decision was filed in the United States District Court at New York City on January 15. The controversy was submitted to the arbitrators on October 30 last. It is said that in the main the railroad company is sustained.

The freight house and office building of the Union Pacific at Fifteenth and Nicholas Streets, Omaha, Neb., was destroyed by fire on December 28, together with 9 loaded cars. Ten other cars with contents were damaged. The fire is believed to have originated from a small stove used by water service men for thawing out frozen pipes. The total damage to the building and cars is estimated at \$50,000.

A fine of \$1,000 was imposed, in the county court at Jersey City, N. J., on Monday of this week, on the Lehigh Valley Railroad Company because of its responsibility for the death of a policeman at the fire which resulted from the great explosion at "Black Tom," New York harbor, July 30, 1916, in the yards of the Lehigh Valley. The indictment against the railroad company was for the crime of manslaughter.

Differences between the Chicago & Alton and its telegraphers were settled through the mediation of G. W. W. Hangar, of the United States Board of Mediation and Conciliation on January 11. Under the terms of the agreement the telegraphers will receive overtime pay for Sunday work, a reduction of the working day by one hour, giving them an eight hour day, and an increase of about \$9.75 a month. About 400 men are affected by the settlement which is the first made since Secretary McAdoo was appointed director general of railroads.

The coal carried off by mobs of men, women and children who raided the railroad yards in Philadelphia during the first week of January, when thousands of people were suffering from the cold weather, is said to have amounted to several hundred tons; and the retail dealers, whose coal was taken from the cars, are preparing to sue the city for the amount of their losses. It is said that the tracks of the Pennsylvania Railroad, along Washington Avenue, were visited by crowds of a thousand persons at one time, and whole carloads were carried off. The police made few arrests and most of those who were taken to the courts were leniently dealt with.

Disturbance of state revenue from railroad taxes, as a possible undesirable result of Federal control of railroads, is the subject of a telegram which Governor Walter E. Edge, of New Jersey, has written to the leaders of Congress and to the governors of a number of states. Governor Edge is president of the Congress of States on Taxation, which recently held a conference at Atlanta, Ga., and his efforts to arouse interest in this subject are addressed to governors and other state

officers who took part in the conference. The state of New Jersey collects from the railroads in taxes about \$8,000,000 annually, the largest single source of revenue in the state. The governor deems it wise to present the matter to Congress without delay, and before any action is taken, with special regard to the interests of those states where the railroad taxes are based on the receipts from traffic.

A Government Traffic Director

H. M. Adams, vice-president and traffic manager of the Missouri Pacific, has been appointed Director of Inland Transportation of the War Department to supervise all Government traffic, under Major-General George W. Goethals, acting Quartermaster General. Mr. Adams will have his office in Washington.

Western Railway Club Meeting

The January meeting of the Western Railway Club, will be held at the Hotel Sherman, Chicago, on January 22. A. R. Ayres, superintendent of motive power of the New York, Chicago & St. Louis, will present a paper on Organization Maintenance and P. S. Eustis, passenger traffic manager of the Chicago, Burlington & Quincy, will speak informally on The Passenger Traffic Problem Today.

Mr. Willard Resigns from Industries Board

Daniel Willard, president of the Baltimore & Ohio, has resigned as chairman of the War Industries Board; and it is understood that the resignation will be accepted as soon as a successor is found. Mr. Willard gave as his reason that the railroad required his entire attention. He has had the step under consideration some time. He was confronted with the alternative of resigning the presidency of the Baltimore & Ohio if he remained as chairman of the War Industries Board.

Fuel Administration Officers

Appointed to Co-operate with Railroads

In compliance with a request from Director General of Railroads McAdoo, United States Fuel Administrator H. A. Garfield has designated Fuel Administration officers to co-operate with the railroads in clearing up emergency traffic congestion. G. N. Snider, of the Fuel Administration, is to act with the Pennsylvania and the Philadelphia & Reading. The Commissioner of the Tidewater Coal Exchange at Norfolk, Va., is to co-operate with the railroads at Hampton Roads in clearing up congestion at that point. Another representative has been located at New York City. These designated officers of the Fuel Administration will have authority to divert shipments of coal from the original consignee whenever an emergency renders such action necessary to relieve traffic conditions.

Progress in Valuation Work

In a statement prepared by H. C. Phillips, general secretary of the Presidents' Conference Committee for the Federal Valuation of the Railroads, dated December 31, 1917, information is presented to the effect that the government has spent about \$9,000,000 and the carriers \$16,600,000 on the valuation work from the passage of the valuation act on March 1, 1913, to June 30, 1917. The government roadway and track parties have covered over 150,000 miles of main lines up to January 1, 1918. Tentative valuations up to the present time have been served on six carriers with a total mileage of 2,120 miles. The field and track inspection is now complete on 153 roads with a total mileage of 61,333

miles; it is from 75 per cent to 100 per cent complete on nine additional roads including 44,017 miles; it is from 50 per cent to 75 per cent complete and nine roads comprising 36,970 miles and is started but less than 50 per cent completed on 186 roads with a mileage of 186,834 miles. Attention is called to the fact that if the government would concentrate its work on those roads most nearly completed it could bring out a large number of tentative valuations in a short time.

Disastrous Wreck at Hammond, Tex.

In the derailment of northbound passenger train No. 17, on the Houston & Texas Central, at Hammond, Tex., on the morning of January 14, about 3 o'clock, 17 persons were killed and 20 injured. Two steel coaches were crushed, and the fatalities were mostly in these cars.

The car most badly damaged was a steel chair-car, which struck a freight engine standing on a side track, and was wrecked above the window rail on one side. Steam pipes on the engine were broken and many passengers were scalded.

The derailment was caused by a loose switch, the points of which had been opened about three-quarters of an inch by a brake beam, which had fallen from a car in a south-bound freight. The night was dark and foggy and the switch had been set, after being used once, without the fault being discovered.

Running the Railroads Under the New Regime

The following items were received too late to be incorporated in the article on this subject on page 153 of this issue:

Mr. Aishton came to Washington on Tuesday and held a long conference with Mr. McAdoo on western conditions.

According to reports received at Mr. McAdoo's office the Freight Moving Week opened inauspiciously, as there was no improvement in terminal conditions on Monday. Reports continue to come in of shortage of men in the mechanical departments, resulting in delays in turning engines and inability to make repairs to maintain power to the proper standard.

Numerous small roads have sent letters or officers to Washington to find out whether they have been taken over by the Government, and there has been some doubt as to whether or not some of them are included in the President's proclamation. Commissioner Woolley, of the Interstate Commerce Commission, has been assigned to make a report on the question.

Mr. McAdoo held a conference on Wednesday with representatives of the National Association of Railway and Utilities Commissioners, who have many questions regarding their status under the plan of federal control.

A committee representing the National Industrial Traffic League was also expected to see Mr. McAdoo later in the day.

The Shepherdsville Collision

The rear collision of passenger trains on the Louisville & Nashville at Shepherdsville, Ky., December 20, in which 47 persons were killed (reported in our issues of December 28, January 4, page 88, and January 11, page 137) was the subject of hearings before the Kentucky State Railroad Commission at Louisville last week. Engineman Wolfenberger, of the express, testified that he did not see the red tail lights of train No. 41 until he was past the train-order signal; that is, within a very few hundred feet of the standing train. He had no idea that he was gaining on train 41, as he had found clear signals at each train-order station. He was required by the dispatcher's order to run not less than one hour and 30 minutes behind time. Actually he was considerably later than that. He said that there was smoke or steam in the atmosphere at Shepherdsville station and it was hard to read signals; but he thought the train-order signal changed to green. He said that operators often change the signal from stop to proceed before the engineman calls for it; and, on account of this habit of the operators, "we are accustomed to run by stationary green boards." He said that it would be impossible to maintain schedules if trains were stopped to see the actual change of all train-order signals (from red to green).

J. B. Keyer, engineman of No. 41, said that he had never known an operator at a station to change a train-order signal until the engineman blew the whistle calling for it.

B. M. Starks, general manager of the road, was questioned at length concerning the custom of operators aiding the station

agents in handling baggage to and from passenger trains. This practice is general on that road at small stations. He said that block systems are not infallible, and cited cases of collisions on roads using the block system. The operator at Shepherdsville could not have changed the train order signal to red, after the passing of train 41, any sooner than he did, as that train was less than 200 ft. beyond the signal, which is the space required by rule.

Knight Commanders

Connop Guthrie, transportation representative of the British government, at New York City, who for many months past has directed the railroad and ocean movement of two million tons of freight monthly, is now Sir Connop Guthrie, K. C. B. E.—Knight Commander of the British Empire. Sir Connop was wounded at the battle of the Marne, where he served with the Coldstream guards.

The same title has been conferred by King George on Arthur H. Harris for his services in Canada as Director of Overseas Transport. Sir Arthur came to America in the seventies, entering the service of the Grand Trunk. He rose there to the position of general freight agent, and in 1902 he went to the Canadian Pacific. On the outbreak of the war he organized an Overseas Transport Department, the successful administration of which is now recognized by His Majesty.

More Railway Honor Men

Additional data concerning the number of railroad men now with the colors has come to hand since the publication of the article entitled "Over 70,000 Railway Men Join Colors," appearing on page 22 of the *Railway Age* of January 4. The following names should be added to the list of Chicago, Rock Island & Pacific engineering department employees who have received army commissions: M. M. Silverman, draftsman, captain in aviation corps; L. A. Humason, compiler, first lieutenant, Camp Grant, Ill.; H. T. Livingston, assistant engineer, first lieutenant United States army; R. O. Bradley, rodman, first lieutenant artillery; S. M. Bunch, rodman, second lieutenant artillery; J. C. Dolan, instrumentman, second lieutenant artillery; W. E. Heimerdinger, assistant engineer, second lieutenant artillery; C. S. Hurlless, rodman, second, lieutenant United States army. These additions make the grand total of Rock Island men now in the army 1465.

Statistics concerning Minneapolis & St. Louis men now in the army were not received in time to be included in the article in the *Railway Age* of January 4. Up to November 1, 185 employees of that road had gone to the colors. The following men received commissions: G. S. Kibbey, engineering department, first lieutenant Engineer Officers Reserve Corps; F. H. Barry, despatcher, first lieutenant with the Russian Railway Service Corps; G. W. Nygren, despatcher, first lieutenant in the Russian Railway Corps; H. E. Comfort, engineering department, second lieutenant Engineer Officers Reserve Corps. C. L. Koehn, C. B. Morgan and B. H. Nixon, despatchers, all have commissions with the Russian Railway Corps.

The Kansas City, Mexico & Orient reports that up to the close of 1917, 34 employees had entered army or navy service.

The El Paso & Southwestern System has a total of 223 men now with the colors. The following additional names of employees who have received commissions came to hand after the publication of the issue of January 4: I. D. Hough, superintendent of telegraph, El Paso, Tex., major in the equipment department, Washington, D. C.; R. I. Geiger, clerk in accounting department, El Paso, Tex., first lieutenant army, Camp Travis, Tex.; E. C. Mulberry, clerk in traffic department, El Paso, Tex., first lieutenant, Camp Kearney, Cal.; T. J. Gallagher, clerk accounting department at El Paso, Tex., first lieutenant in army, now in France; J. O. Nabours, Jr., stenographer and clerk general manager's office, El Paso, Tex., first lieutenant, Fort Sam Houston, Tex.; J. E. Hubbard, rodman, Tucumcari, N. M., second lieutenant Seventh Regiment Engineers, United States Army, Atlanta, Ga.; R. C. Campbell, clerk accounting department, El Paso, Tex., second lieutenant, Camp Travis, Tex.; F. S. Ross, clerk accounting department, El Paso, Tex., second lieutenant Nineteenth Infantry, Company

F, Port Arthur, Tex. Most recent reports make the number of officers of the El Paso & Southwestern who have received commissions, two; the number of employees who have received commissions, 10; the number who have enlisted or who have been drafted in the army, 185; and those in the navy, 26; making a total now with the colors of 223.

The Baltimore & Ohio reports the following additions to its list of employees who have received commissions: J. G. Stevenson, bridge inspector, captain quartermaster's department, Camp Merritt, N. J.; W. B. Blanchford, machinist, captain, regular army; H. R. Holljes, inspector, first lieutenant Marine corps, France; E. J. Clopton, chairman, lieutenant field artillery; A. N. Peters, chief despatcher, lieutenant, railway regiment; A. M. Dinsmore, brakeman, second lieutenant, machine gun corps, Fort Riley, Kan.; C. R. Preston, inspector, second lieutenant in infantry, Camp Lee, Va.; J. J. Chisolm, inspector, second lieutenant assistant paymaster in the navy; J. M. Beverly, brakeman, second lieutenant in the navy.

The statistics of enlistments in the army for the Tennessee Central were inadvertently omitted from the article in the *Railway Age* of January 4. The number of employees of this road, however, who entered government service was included in the grand total of railway men under arms therein mentioned. Two Tennessee Central employees received commissions, i.e., C. H. Fitzgerald, yardmaster, a majorship, and F. J. Ready, Jr., secretary and chief clerk in the legal department, a first lieutenant in the aviation section of the signal corps. Seventy-one other employees either volunteered or were drafted.

Gratitude for Tobacco Funds

Brigadier-General W. W. Atterbury, Director General of Transportation, American Expeditionary Forces in France, has congratulated the employees of the Pennsylvania Railroad upon the liberality with which they have contributed to the fund for supplying tobacco to their former comrades, now in the field. In a letter to J. C. Johnson, Superintendent of Telegraph of the Pennsylvania Railroad, he says:—

"I was very much gratified to learn that the Pennsylvania Railroad employees had contributed a fund of \$35,000 for the purchase of tobacco for Pennsylvania Railroad boys serving with the American Expeditionary Forces. As to the best method of sending the tobacco. I shall want from the general manager's office a list of the employees, upon receipt of which we will make the necessary arrangements and advise how to forward the tobacco.

"I want to congratulate the employees of the Pennsylvania Railroad who are doing their bit at home to help us here in France, for the splendid way they have responded in this very laudable undertaking. American tobacco is very scarce over here and is in great demand, and I know that all of our employees with the American Expeditionary Forces will be very glad to receive such a substantial reminder from their friends and fellow-workers at home.

"Needless to say, we are very busy, for the job they have given us is going to tax all our energy and ingenuity. However, that is what we are here for."

Contributors to the Railway Regiments' Tobacco Fund will be interested in a letter from Fred A. Preston, secretary and treasurer of the P. & M. Company, Chicago, now a captain in the regular army in France. He was in a hospital for a month with the measles, and after he came out he wrote a letter to Fred A. Poor, president of the P. & M. Company, in which he said:

"I had occasion while at the hospital to see what sending tobacco to the soldiers means. There were sixty privates with the measles quarantined in a separate building and they were the most cheerless lot of men I ever saw, with no clothes of their own and nothing to smoke. They were actually sick, not from measles but from pure lonesomeness. After they had been there six days the Y. M. C. A. brought around about 500 bags of Bull Durham and the whole character of the place changed in a flash. I have never seen anything which gave so much pleasure and those boys were well in an hour, and left the hospital the next day!

"There is nothing so welcome as Bull Durham with plenty of papers and matches. The latter are especially scarce. Send the tobacco in the large size bags. Before long I shall have

the chance to see some of the soldiers who are receiving your tobacco. I will write you what they say; but I know now what it will be."

Contributions to the Railway Regiments' Tobacco Fund for the week ending Tuesday noon, January 15, are:

Detroit Graphite Company, Detroit, Mich., \$3 a month for 12 months.

Mt. Vernon Bridge Company, Mt. Vernon, Ohio, \$10 a month for 12 months.

Record Snow Storms Paralyze

Transportation in Central West

Two of the severest snow storms in history have swept over the Central West within a week paralyzing transportation for from 24 to 48 hours each time. The first storm was accompanied by a snow fall of nearly 15 inches, which constitutes a record for Chicago and tributary territory, and was confined largely to a zone within about 100 miles of that city. It started west of the Mississippi river late in the evening of Saturday, January 5, and at Chicago the velocity of the wind was about 55 miles an hour. The railroads were forced to annul most of the passenger trains scheduled to leave Chicago on Sunday, and all incoming trains were late.

Hardly were the rails and yards cleared of snow when a second storm passed over the same section of the country. It began Friday evening, the 11th. The snow fall was not so heavy, a maximum of about eight inches and in many localities not exceeding three inches, but the gale was as bad or worse, and of longer duration. Passenger trains throughout the storm area were stalled, and passengers were forced to billet in warehouses, country stations and small rural hotels. The less fortunate had to remain in their trains, in some cases after the car-heating facilities gave out. Many important trains could not be moved for from 24 to 48 hours. Some which left Chicago Friday evening were recalled when it became apparent that they could not proceed, but the return trip in some instances took all day Saturday and Sunday.

Thousands of men were hired and others were drafted from all railroad departments, which could spare men, to clear the tracks. The Chicago, Burlington & Quincy employed all its freight handlers, freight clerks, and draftsmen to shovel on January 14. Other roads took similar measures. Because of the difficulty of obtaining men for this work some Chicago roads paid as high as \$1 an hour for common labor. Rotary snow plows were put at work, but, as long as the storm lasted, these progressed with difficulty. On Sunday morning, January 13, a plow and a locomotive were derailed near Corliss, Wis., on the Chicago-Milwaukee line of the Chicago, Milwaukee & St. Paul.

Practically no trains were run on the 12th and 13th, but passenger service was resumed on something approaching normal schedules on January 14. Chicago suburban trains, which attempted to fight the storm Friday night, were stalled in snow drifts, forcing commuters to spend the night in the cars except when rescued by farmers who broke through the drifts with sleighs and bobsleds. Chicago offices, stores and factories were operated with depleted forces on January 12 because of the failure of all suburban trains, electric interurbans and street railways.

The first break in Chicago's isolation from the east came when the Twentieth Century Limited on the New York Central arrived at 10 a. m., Sunday, a little over 24 hours late. The New York-Chicago Limited of the Baltimore & Ohio, due at 9 a. m. on Sunday the 13th, did not arrive until 1:30 p. m. on Monday. The Manhattan Limited and the Mercantile Express of the Pennsylvania, due in Chicago on Saturday afternoon arrived Monday. These trains were held at Mansfield, Ohio.

No freight service, except the movement of coal and perishables, was attempted until Monday, January 14. The Illinois Central delivered coal at team tracks in Chicago on Sunday, although hardly a wheel of a passenger train moved. A small amount of milk in cans reached the city over the Chicago & North Western Monday morning, the first to come in over that road since Friday. Milk deliveries in the city on the 14th were confined to families with babies, and even some of those had to do without. Coal movements were greatly impeded everywhere. The Illinois State Fuel Administration has com-

mandeered, for domestic purposes, all coal in Chicago railroad yards. Even some of the railroads are seriously affected by the coal shortage. The Chicago Great Western and the St. Paul were not able to resume normal operation until they received additional coal. The former road was operating only about 50 per cent of its passenger trains on Tuesday of this week, and the latter line has cancelled an unprecedented number of trains to conserve its fuel. Many large industrial plants in the Chicago district were forced to close on January 14 because of the shortage of fuel and the difficulty of delivering that already in the terminals, among them the steel mills of the Calumet region and three Chicago packing plants.

The second storm affected a larger area than the first one, extending as far south as Memphis, Tenn., west nearly to Omaha, Neb., and east beyond Cleveland, Ohio. In southern Illinois there was considerable sleet which did much damage to railroad wires. The Chicago & Eastern Illinois had its telegraphic communication largely cut off. In the main path of the storm, however, the wind carried a fine dry snow which was especially hard to handle, because it was blown back over the rails as fast as it was removed.

William G. McAdoo, director-general of railroads, telegraphed on Monday, the 14th to R. H. Aishton, chairman of the Central Department of the American Railway Association, expressing his distress at the inconvenience and suffering which the blizzard brought to the people in the West and Central West, and calling for the use of every possible means to overcome the situation and restore railroad service at the earliest possible moment. In reply Mr. Aishton assured Mr. McAdoo that every possible means was being used to restore normal service and particularly the movement of coal. "All employees stuck to their tasks of keeping transportation moving as long as it was humanly possible to do so. Every available man was employed in the moving of snow. Through passenger service in the Chicago district resumed nearly normal operations this morning. Very good success obtained last night in placing coal in Chicago territory. Every man that can be spared from any other class of work is being used to remove snow from tracks in yards so that all transportation may be resumed at the earliest hour possible. You may feel assured that absolutely nothing is being left undone by officers and employees to restore full normal transportation."

Radical Economies in Canada

The Railways' War Board of Canada is considering seriously a proposal, to be laid before the government, to take up many hundreds of miles of main track, on lines which are parallel to other lines, for the purpose of providing rails for renewals of more important tracks; renewals which have long been delayed but which are now imperative.

Toronto papers report the discontinuance of numbers of passenger trains on all of the three principal railroads entering that city, the Grand Trunk, the Canadian Pacific and the Canadian Northern; and it is said that the saving of coal amounts to several hundred tons a day.

To save coal the government railway administration will run but one train a day between Halifax and Montreal.

Discussing various published conjectures concerning the Canadian government and its attitude toward the Grand Trunk and the Canadian Pacific. W. M. Seal, General Secretary of the Railways' War Board, declares that there is no likelihood of the Dominion Government taking over the management of the roads in the near future. The Canadian roads have been dealing with war conditions since August, 1914, and Canada's chief railways, unlike the American roads, are nation-wide in organization and operation. In dealing with nation-wide conditions each Canadian transcontinental line has unity of control over its coast-to-coast traffic. There are only three large systems (and less than sixty roads, counting small and large as well). This makes the work of the War Board quite simple, and a very different proposition from that where the number of roads is raised by hundreds. In Canada today shortages on one road are taken care of at once out of the surpluses of sister roads. Shortages in such things as potato cars, apple cars, coal cars, or engines, trackage, or terminal facilities, are constantly and almost instantly met. The round-about routing of freight, which was one of the problems of the American railway situation, does not exist in Canada.

Track and Trackless Lines Combined

The San Diego & South Eastern has been authorized by the California State railroad commission to take over independent motor-car lines and to operate them over a route from the terminus of its rail line at Lakeside, Cal., northeastward to Julian, approximately 38 miles. There is one seven-passenger Buick car of 55 hp., two Federal trucks of 3½ and 2 tons' capacity, respectively, two Auto-car trucks of 2 tons' capacity each, one Alco truck of one ton capacity, two Kissel trucks of 2½ and 1 ton capacity respectively, and one Denby truck of 2½ tons' capacity.

National Foreign Trade Convention

James A. Farrell, Chairman of the National Foreign Trade Council, has issued the formal call for the Fifth National Foreign Trade Convention to meet at the Gibson Hotel, Cincinnati, Ohio, Thursday, Friday and Saturday, April 18 to 20. The time of the meeting was originally announced as February 7 to 9 but has been changed by the executive committee "owing to the railroad congestion and the desire of the Council to co-operate with the Government in the relief of the situation due to the war." The theme of the Convention will be "The Part of Foreign Trade in Winning the War."

The preliminary program is announced as follows:

First Day, Thursday, Convention called to order at 10 A. M. by James A. Farrell, Chairman, National Foreign Trade Council; Addresses of Welcome on behalf of state of Ohio and City of Cincinnati; Organization of convention—election of president of convention. Topic of Session, Foreign Trade Achievements Up to Date—a series of brief addresses presenting the share of the different elements of foreign trade—Shipping, Railroads, Finance, Steel, Textiles, Chemicals and Lumber, in war preparation and work.

Afternoon Session: 2:30 P. M.—Topic of Session, After-War Conditions of Foreign Trade—Two or three papers discussing measures necessary for American foreign trade, to meet the new situation when peace is restored, and to hold the gains it has made in recent years—organization in production and co-operation in marketing.

Group Sessions at 4 P. M.:

Group I. Exports Control and Imports Control. Attended by representatives of the War Trade Board.

Group II. Foreign Credits. In co-operation with the National Association of Credit Men.

Group III. Education for Foreign Trade.

Group IV. The Smaller Manufacturer and Merchant. In co-operation with the American Manufacturers' Export Association.

Group V. Getting Into the Game. Experience Session for Beginners.

Second Day, Friday, Morning Session: 10 A. M.—Session Topic, The Merchant Marine. Addresses dealing with the rehabilitation of the American merchant fleet, and means to assure its permanent retention; the American foreign trade policy of the future and the problem of the Pacific.

Friday Afternoon, 2:30 P. M., Group Session.

Friday Evening, 7 P. M., Banquet, Gibson Hotel.

Third Day, Saturday, Morning Session: 10 A. M.—Reports of Group Sessions and General Convention Committees; Miscellaneous Business; Adjournment. Foreign Trade Specialists leave Cincinnati for New York and Boston, 2:30 P. M.

O. K. Davis, secretary of the National Foreign Trade Council, announces that the various departments of the government, commissions, boards and bureaus, the activities of which concern foreign trade, are co-operating with the council to make available to all delegates government trade information and advice regarding foreign markets.

The secretary of state will assign to the convention several consuls general and consuls from Europe, Latin America and the Far East, who are expected in the United States on leave at the time of the Convention.

Among the special features of the Convention will be a large collection of samples assembled by the Bureau of Foreign and Domestic Commerce.

The work of organizing the Convention is being conducted by O. K. Davis, Secretary of the National Foreign Trade Council, 1 Hanover Square, New York.

Traffic News

The Navy Department has taken two steamers of the Central Vermont Railway, which have been lying at New London unused, for the past three years—the Narragansett and the Manhattan.

The Traffic Club of Jacksonville, Fla., held its annual meeting on January 5. John C. Burrowes, superintendent of the Pullman Company, was elected president for the ensuing year.

In Philadelphia, this week, eight large freight stations of the Pennsylvania Railroad have been kept open until 10 o'clock in the evening, with the hope that consignees would be able to more rapidly clear away the accumulation of freight.

James A. Farrell, president of the United States Steel Corporation, who was recently appointed assistant to A. H. Smith, assistant director-general of the railroads, has appointed a committee of eight traffic managers of steel companies to gather information and submit reports to Mr. Smith.

The United States Food Administration's recent instructions that shippers must load to safe carrying capacity have produced results on the Southern Pacific. A shipper at Hubbard, Ore., on November 15, loaded 104,500 lb. of potatoes into a Southern Pacific 40-ft., box car. At 60 pounds to the bushel this means 1742 bushels. The car was loaded nine sacks high, and was delivered at Colma, Cal., on November 22, without complaint as to the condition of its contents.

The special committee of the National Industrial Traffic League, recently appointed, with Guy M. Freer, president of the league, as chairman, has gone to Washington to give Director General McAdoo the viewpoint of shippers at large concerning the important measures he has taken since assuming control of the railroads, including particularly the new demurrage rates, the routing of freight without reference to company lines, etc. The committee will also ask for a league representative on Mr. McAdoo's advisory board.

Railroads in the territory of the Western Passenger Association have discontinued the delivery of railroad, sleeping-car and parlor-car tickets either by railroad employees or by paid messengers. Similar action was taken some time ago by railroads in the territory of the Central Passenger Association. Member lines of the Western Passenger Association have also agreed to discontinue free telegraph and telephone service in connection with sleeping-car reservations, subject to the concurrence of the Southwestern and Transcontinental Passenger Associations. According to this arrangement, if it becomes effective, no sleeping-car or parlor-car reservations for passengers on foreign lines or at other points on the same line will be made by telegraph or telephone except at the expense of the passenger. This rule will not apply to reservations on sleeping-cars or parlor-cars which pass through the station where passengers call for space, but merely applies when passengers desire to reserve berths or parlor-car chairs on a train with which they intend to connect.

Illinois Manufacturers Protest

Increased Demurrage Charges

The traffic committee of the Illinois Manufacturers' Association has passed a resolution declaring that any change, through government control, or agitation by the carriers in connection with trap and ferry cars, increase in carload minimum weights, storage, track storage, or other matters, without consultation and agreement with shippers, is ill advised and inconsistent with the spirit of co-operation. "These subjects have been handled through negotiation between the carriers and shippers with very satisfactory results, and we respectfully suggest that such relations continue." A telegram was sent to W. G. McAdoo, director-general of railroads, criticising his order making radical changes in demurrage charges and eliminating the average agreement.

It said: "We are in entire accord and sympathy with you in your efforts to facilitate prompt movement, but . . . we can demonstrate that the enforcement of your order will not accomplish the results desired. . . . We therefore respectfully request opportunity to be heard prior to the taking effect of the order January 21."

To managers of Chicago railroads a message was sent deploring the abolishing of commercial railroad freight offices long established out of necessity. Such a radical change, it is declared, deprives the shipping and traveling public of the only prompt means of obtaining necessary information which is absolutely essential.

Curtailment of Passenger Train Service

The New York Central made further extensive reductions in passenger train service on Monday of this week, particularly in suburban trains to and from New York City.

The Chicago, Milwaukee & St. Paul, to conserve coal, has issued orders cancelling 54 passenger trains.

The Cleveland, Cincinnati, Chicago & St. Louis has discontinued its night trains between Chicago and Louisville.

The Louisville & Nashville has taken off a number of Sunday trains.

South American Traffic

Steamship lines to South America and to Trans-pacific ports report more passenger traffic than last year. The rapid development of new trade enterprises under the stimulus of war conditions has created a volume of commercial travel heretofore unknown. New trade relations now established mean new freight, and permanent benefit to the carriers of both freight and passengers. The new United States and Pacific Line, plying between New York and the west coast of South America, through the Panama Canal, announces the departure of the first of its four new steamers the last of January.—*American Express Co.'s Travel Bulletin.*

Discontinuance of Solicitation of Traffic

Reductions of the forces of city passenger and freight agents have been under consideration during the past three weeks by many railroads at many cities; and action has already been taken in a number of cases, including the complete closing of some offices; but there seems to be no very well-defined policy, and each road apparently finds itself compelled to consider numerous local obstacles. The Baltimore & Ohio has closed its office at 196 Washington street, Boston, and the New England passenger agent has been sent to Philadelphia. Among the 30 railroad offices on the principal business streets of Boston, a considerable number reduced their staffs on or about January 1; but it is said that some of the roads have reconsidered the matter and may not withdraw so many men as at first was intended. From Toronto, Ont., it is reported that the Chicago, Milwaukee & St. Paul, the Minneapolis, St. Paul & Sault Ste. Marie, and the Pennsylvania have closed their offices. The passenger and freight agent of the Missouri Pacific at Nashville, Tenn., has called in his traveling agents. The Chesapeake & Ohio, the Erie and the Southern have signified their intention to close their offices in Philadelphia. The Georgia Railroad has closed its office in Macon. A number of offices have been closed in Atlanta, Ga. At Chicago mercantile interests protested against the closing of city freight offices.

Railroads in the territory west of Chicago have practically discontinued the solicitation of freight traffic, but their soliciting forces have been utilized in other ways. The Missouri Pacific recalled approximately 200 freight solicitors and put them at work in the operating department. On most of the larger roads the solicitors are employed to expedite the movement of freight and to keep shippers advised as to how and by what routes freight is being moved. The Texas & Pacific, the Southern, the St. Louis Southwestern, the International & Great Northern and the Missouri, Oklahoma & Gulf have closed their offices at Chicago. The Chicago, St. Paul, Minneapolis & Omaha has closed its agency at Kansas City, and the Baltimore & Ohio closed its office at Buffalo, N. Y.

Commission and Court News

Interstate Commerce Commission

The Interstate Commerce Commission has approved for filing without formal hearing Western Classification No. 55, stating that it has been assented to by a large number of shippers and that the changes conform to recommendations of the Uniform Classification Committee, thus bringing about greater uniformity in classification.

State Commissions

The Public Service Commission of West Virginia has authorized the Baltimore & Ohio and the Chesapeake & Ohio to advance their passenger fares in that state from 2 cents a mile to 2½ cents a mile, the new rate to go into effect February 1. The commission says that this is a war measure and approved only because of a temporary emergency.

Demurrage Rates Advanced

The Railroad Commission of Louisiana, acting on the notice received from the director general of railroads, has adopted for intrastate traffic the advanced rates for freight-car demurrage recently prescribed at Washington, and has issued to shippers of the state a circular calling for co-operation in this movement for economy. The attention of shippers is called also to the extensive navigable waters of Louisiana, and it is intimated that shippers have not properly appreciated these channels of transportation. The circular names a half dozen steamboat lines which are available; and the commission proposes to look up owners of boats who will afford water service to places now lacking it.

The railroad commissions of a number of other states have adopted or approved the demurrage rates prescribed by Director General McAdoo, among which are those of Georgia, Maryland, Pennsylvania and Tennessee.

The Public Service Commission of New York State, second district, announces the receipt of notices from most of the principal railroads of the state that embargoes have been placed on all shipments of freight, in carloads, which the shippers desire to have stopped or held for reconsignment or diversion. These embargoes have been placed by direction of the assistant to the director general of railroads.

New York Annual Report

The Public Service Commission of New York, first district (New York city), has sent to the legislature its 11th annual report. The most important subject dealt with is the construction of rapid transit lines in New York city. Ten of these lines, or sections of lines, have been put in operation during 1917, and about as many more will be finished in 1918. The report characterizes the new dual system of rapid transit in New York as the world's largest engineering undertaking, costing in the neighborhood of \$400,000,000, or more than the construction of the Panama Canal. Its hundreds of miles of track on city and company-owned lines will effect approximately an increase of more than 100 per cent in the city's transit facilities as they existed in 1907. Hundreds of acres of territory now sparsely settled in the outlying districts will soon be built up as a result of the opening of these new lines, which together will constitute the greatest municipal transit system in the world.

"Early in 1918, possibly by the end of March, the commission will have the new Lexington avenue subway and the Seventh avenue subway in operation. The Lexington avenue subway is to be connected with the first subway in the vicinity of Forty-second street, extending thence northward into the Bronx, forking in the vicinity of 135th street into two branches, one extending easterly to Pelham Bay Park and the other northwesterly to Woodlawn road.

"The Seventh avenue subway joins the first subway at Times Square and extends south, forking at Park place into two two-

track branches, one of which continues to a connection with the first subway at the Battery loop, while the other extends through Park place, Beekman and William streets to Old Slip, and to Brooklyn by a tunnel now under construction. These two lines, operating as part of the first subway, will provide the greatest amount of traffic relief possible for a good many years. Instead of one four-track subway there will be two, and for the portion of Manhattan Island south of Forty-second street there will in the near future, with the Broadway subway, be twelve subway tracks instead of four.

Court News

Statute Requiring Trains to Stop

at State Line, Held Void

The Kansas Supreme Court holds that chapter 283 of the Laws of 1915, making it the duty of the Public Utilities Commission to require interstate railroad companies to provide proper facilities and to stop all passenger trains a reasonable time at or near the state line, was not the product of an exercise of the police power, undertakes to regulate interstate commerce in a matter already regulated by proper federal authority, casts an unwarranted burden on interstate railroad commerce, deprives interstate railroad companies of their property in lawfully established interstate passenger fares, and is unconstitutional and void.—*State v. Dickinson (Rock Island) (Kan.)*, 168 Pac., 838. Decided November 10, 1917.

Construction of Live Stock Contract

A contract for the transportation of cattle from Ulysses, Pa., to Philadelphia contained a "36-hour limitation" and bore a memorandum "Put off at Lancaster, Pa., for feed and water." The railroad took the car over its own line and a connecting line, the Philadelphia & Reading, to Philadelphia without going through Lancaster, and without apparent delay or any injury from delay. The shipper ordered the cattle sent to Lancaster, where they were sold. The shipper subsequently sued the railroad for breach of contract, claiming feed charges in Philadelphia, freight charges from Philadelphia to Lancaster, a loss because of a decline in the market price of cattle at Lancaster, yard charges at Lancaster, and feed charges pending the sale. The Pennsylvania Superior Court held that a compulsory nonsuit was properly entered. The carrier was not responsible for a loss caused by the transfer of the stock from the point of destination to another market where loss occurred.—*Stauffer v. New York Central*, 66 Pa. Superior Ct. 208. Decided March 16, 1917.

Interstate Shipments—Time of Bringing Suit

A carload of mules was shipped from New Albany to Leland, both points in Mississippi. The car was to go to Memphis, Tenn., and there be delivered to another carrier. This was done. Subsequently the shippers sued the connecting carrier for injuries to the mules resulting from delay while in its hands. The railroad set up as a defense that the action was not brought within six months as stipulated in the bill of lading. This raised the question whether the shipment was interstate and so governed by the Carmack Amendment. The Mississippi Supreme Court, citing *Hanley v. Kansas City Southern*, 187 U. S., 617, 23 Sup. Ct. 214, held that where a bill of lading shows the routing to be outside of the state, though the points of origin and destination are both within the state, the shipment is interstate. It was argued for the plaintiff that the shipment could have moved wholly within the state of Mississippi. The court said that while that might be true the contract routed the shipment via Memphis. The initial carrier had no option in routing. It was also held that the Carmack Amendment applied, though the suit was not against the initial carrier. The provision requiring the suit to be brought within six months was valid and was not waived by the railroad company. The bill of lading was duly signed by the shippers and so was an admission by them that they were offered by the initial carrier two separate contracts, and that they chose this one in consideration of the reduced rate. The recitals in the contract were prima facie evidence of the fact that this choice was offered. The testimony showed that they accepted and signed the bill of lading without reading it; but it was

held insufficient to contradict the written admissions in the contract. Judgment for the plaintiffs was reversed and judgment entered for the railroad.—*Illinois Central v. Rogers* (Miss.), 76 So. 686. Decided November 19, 1917.

Computation of C. L. Charges—Storage and Demurrage

Action was brought against a shipper to recover for freight, demurrage and storage on a stone-working lathe and equipment shipped from Columbia, Me., to St. Cloud, Minn., which the consignee refused to receive, but not on account of any fault of the carriers. The freight charges were lawful, and on 24,000 lb. the minimum c. l. rate. The actual weight of the goods was 17,000 lb., and the question was raised whether the goods shipped reasonably amounted to a carload. The Maine Supreme Court justified the carload rate; and also held that the terminal carrier did not act imprudently in taking the lathe and equipment to a warehouse at an additional freight charge, although it might have unloaded it on its right of way; but its action, after it knew that the shipper was unlikely to give any orders for the disposition of the shipment, in keeping the goods on the car at a demurrage charge of \$1 a day for 86 days was held unreasonable and unnecessary, and it should have unloaded the freight and released the car after a demurrage charge of not over 26 days.—*Northern Pacific v. Pleasant River Granite Co.* (Me.), 102 Atl. 258. Decided November 24, 1917.

Free Passes to Employees—

After Termination of Service

A railroad sent its agent to Union Springs, Ala., and there employed several persons to work for it on its lines in North Carolina and Tennessee. Their contracts included free transportation to their place of work and free transportation to their homes in Alabama every two weeks. The latter was never furnished, but the men continued at work until their job was finished in North Carolina and they were transported to Johnston City to work. At this point they declined to work any further and were discharged. They then demanded their free transportation to their homes, which was refused and they brought suit. The railroad's defense was that it was not permitted, under the law, to contract to furnish free transportation; that it could only furnish transportation to such persons as were in its employ, and that, at all events, after the plaintiffs were discharged, it was unlawful for the railroad to furnish such transportation. The Tennessee Supreme Court held that the plaintiffs not being servants of the railroad at the time the free transportation was refused at Johnston City, the railroad could not furnish it without being liable in the penalty provided in the federal law. There is no exception for such a case in the act itself and the court can make none. The court followed the rulings of the Supreme Court of the United States, which has construed the act very strictly in furtherance of the policy of Congress to root out the practice of furnishing free passes by interstate carriers, except in the cases reserved by the act. Such a contract was therefore held not binding.—*Northern v. Linear* (Tenn.), 198 S. W., 887. Decided November 20, 1917.

United States Supreme Court

Texas Train-Schedule Law Void

The United States Supreme Court, on Monday of this week, in the case of the Missouri, Kansas & Texas, of Texas, against the state of Texas, dismissed a suit by the state to collect penalties for alleged violation of an order of the state railroad commission in failure to adhere to passenger train schedules. The Court held that the order was an interference with interstate commerce.

Interstate Commerce Commission Sustained

The Supreme Court of the United States has upheld the order of the Interstate Commerce Commission which (after several revisions) merely denied to the Louisville & Nashville authority to continue on certain traffic through Bowling Green to Louisville and to Nashville lower rates than were contemporaneously in effect to Bowling Green. (*Bowling Green Business Men's Association v. Louisville & Nashville*, 24 I. C. C. 228). The railroad assailed the validity of the

order in the federal district court for the Western District of Kentucky. The district court refused to grant a temporary injunction and dismissed the company's bill. This is now affirmed by the Supreme Court. The railroad company had filed a long assignment of errors. The Supreme Court says that "many of the assignments of error are not now insisted upon, none deserves detailed discussion, all are unsound." *L. & N., v. United States*. Decided, January 7, 1918.

Railroads Lose Illinois Passenger Fare Case

The Illinois railroads have lost their fight to set aside the Illinois two-cent fare law. The United States Supreme Court on Monday of this week in a decision by Justice Van Devanter, sustained the decision of Judge Landis of the district court for the northern district of Illinois, which held that the Interstate Commerce Commission had exceeded its authority in its order in the *Business Men's League* case. The commission ordered the railroads to remove the discrimination against interstate traffic resulting from the higher rate for interstate traffic than the rate charged for intrastate passengers, and it specifically approved the 2.4-cent interstate rate as being reasonable. The railroads asked an injunction to restrain the enforcement of the two-cent rate in Illinois, but Judge Landis dismissed the proceedings. Both the railroads and the state authorities appealed from the decision, which is now upheld. Another federal court at St. Louis enjoined the railroads from violating the commission's decision and during the litigation the higher rates have been charged, rebate coupons being given to the passengers. The court sustained the contention of the state authorities that the order of the Interstate Commerce Commission was not sufficiently definite and precise to be enforced as against a state law.

Assumption of Risk Under

Federal Employers' Liability Act

A freight train was being made up in a yard, and an experienced conductor, while between cars contrary to the rules, and assisting in an effort to adjust a faulty coupler, was killed. The coupler was at the south end of a string of cars standing on a grade; another string moving down from the north hit the standing cars and drove them against the deceased and across a space of twenty feet. Suing under the federal Employers' Liability Act the administratrix maintained that the brakeman in control negligently permitted the moving cars to strike with too great violence; also that the company negligently failed to promulgate and enforce adequate rules to safeguard the deceased while at work; and some evidence tended to support both claims. The Circuit Court of Appeals, Second Circuit, affirmed a judgment for the defendant after the trial court had denied motion for new trial based solely on its refusal to give the charge specially requested by the plaintiff (218 Fed. 367). The requested charge was that "the risk the employee now assumes since the passage of the federal Employers' Liability Act, is the ordinary dangers incident to the employment, which does not now include the assumption of risk incident to the negligence of defendant's officers, agents or employees." Denying the request the court said: "Under the Employers' Liability Act the employee simply assumes the risk of his employment. Section 4 reads, 'Such employee shall not be held to have assumed the risk of his employment in any case where a violation by such common carrier of any statute enacted for the safety of employees contributed to the injury or death of such employee.' I decline to charge as requested, because this is not an action of the kind specified in Section 4."

The Supreme Court of the United States, in affirming judgment for the defendant, said that the request quoted did not accurately state any applicable rule of law and was properly refused. Already the jury had been told that the deceased assumed the ordinary risks of his employment, a statement more favorable than the plaintiff could properly demand. If the negligence of all officers, agents or employees of the company should be excluded in actions under the Employers' Liability Act "it is difficult to see what practical application could be given to the established doctrine concerning assumption of risk." *Boldt v. Pennsylvania*. Decided January 7, 1918.

Equipment and Supplies

Locomotives

THE WESTERN PACIFIC is inquiring for 5 Mikado locomotives.

The CHICAGO, MILWAUKEE & ST. PAUL is contemplating the purchase of 50 steam locomotives.

The DELAWARE, LACKAWANNA & WESTERN reported in last week's issue as asking prices on 15 Mikado locomotives, has ordered these locomotives from the American Locomotive Company.

THE RHODESIAN RAILWAYS have ordered 9 mountain type locomotives from the American Locomotive Company. These locomotives will have 22 by 24 in. cylinders, a total weight in working order of 172,000 lb. and will be equipped with superheaters.

THE CHILEAN STATE RAILWAYS recently ordered 20 Mikado locomotives from the American Locomotive Company. These locomotives will have 22 by 28 in. cylinders, a total weight in working order of 195,000 lb. and will be superheated. The purchase of the locomotives has been supervised by Justiniano Sotomayor, vice-general manager and vice-minister of public works of Chile, who is now staying at the Hotel McAlpin, New York.

Freight Cars

EARL PETTY, Eldorado, Kan., is inquiring for 20 sulphuric acid tank cars.

THE ST. LOUIS-SAN FRANCISCO is inquiring for 170 steel underframes.

THE BALTIMORE & OHIO has withdrawn its recent inquiry for 3,000 freight cars.

SAMUEL BAER, Nashville, Tenn., is inquiring for 10 8,000-gal. capacity tank cars.

W. D. JENKINS, New Orleans, La., is inquiring for 10 8,000-gal. capacity tank cars.

THE CANADIAN GOVERNMENT RAILWAYS have issued inquiries for 250 drop bottom gondola cars.

THE WESTERN CONTRACTING COMPANY, Kansas City, Mo., is inquiring for 25 8,000-gal. tank cars.

LOWELL R. GAIDRI, New Orleans, La., is inquiring for 10 50-ton, 8,000- to 10,000-gal. capacity tank cars.

THE REPUBLIC IRON & STEEL COMPANY has ordered 200 coke cars from the Pressed Steel Car Company.

THE EQUALITY REFINING COMPANY, Oklahoma City, Okla., is inquiring for 30 8,000-gal. capacity tank cars.

THE SOUTHERN OIL CORPORATION, Tulsa, Okla., is inquiring for 25 8,000- to 10,000-gal. capacity tank cars.

THE JARECKI CHEMICAL COMPANY, Cincinnati, Ohio, is inquiring for 6 50-ton, 7,000-gal. capacity tank cars.

THE UNITED STATES NAVY has ordered 60-ton steel underframe box cars from the American Car & Foundry Company.

THE COLOMBIAN NORTHERN has ordered 6 15-ton wooden gondola cars from the American Car & Foundry Company.

THE UNITED STATES WAR DEPARTMENT is about to place orders for quantities of spare parts and specialties for freight cars.

THE BRIER HILL IRON & COAL COMPANY, Youngstown, Ohio, is inquiring for 10 70-ton gondola, 40 70-ton coal and 25 50-ton general service cars.

Passenger Cars

THE COLOMBIAN NORTHERN has ordered 2 third-class passenger coaches from the American Car & Foundry Company.

Supply Trade News

Peter L. Maher, business manager of the Eastern Car Co., Ltd., New Glasgow, Nova Scotia, has resigned his position and has returned to the United States.

The Concrete Mixing & Placing Company has moved its offices from 123 West Madison Street, Chicago, to the First National Bank building in the same city.

S. D. Winger, formerly associated with the Prest-O-Lite Company, in charge of railroad sales, has been appointed general manager of the compressed acetylene department of the Oxneld Railway Service Company with office at Chicago, Ill.

P. C. Gunion has been made advertising manager of the industrial bearings division of the Hyatt Roller Bearing Company, Newark, N. J. Mr. Gunion has been in the sales department of the Hyatt Company for two years. Just previous to his recent appointment he was manager of the Pittsburgh office.

The American Sheet & Tin Plate Company, Pittsburgh, on January 1, had a total of 1,417 men in the various branches of the military service of the United States. To draw attention to this fact the company pastes on its letter heads a sticker made up like a service flag containing the name of the company, a star and the figures, 1417.

A. C. Miller, promoter of the Chicago-New York Air Line, part of which was finally absorbed in the Gary & Interurban Traction system, of which he was formerly the head, and more recently the inventor and promoter of a cab train control device, died on January 4, at Aurora, Ill., aged 66 years. Although of the same name he was not associated with the Miller Train Control Corporation, Danville, Ill.

Recent promotions in the Pressed Steel Car Company's organization in the Pittsburgh District make J. H. Hackenburg purchasing agent, succeeding the late H. J. Gearhart. Mr. Hackenburg was formerly the assistant purchasing agent. H. B. Fisher and C. C. Clark have been appointed assistant purchasing agents of the company. W. C. Howe, formerly in charge of the Allegheny plant, becomes assistant to the vice-president. J. C. Ritchey has been appointed electrical engineer.

R. A. Van Houten, works manager of the Sellers Manufacturing Company, Chicago, has been appointed vice-president and general manager with the same headquarters. George M. Hogan, sales agent has also been appointed assistant secretary and W. H. Seigmund, cashier, has been appointed assistant treasurer. E. M. Kerwin, secretary-treasurer, has been granted a leave of absence to enter military service, having been commissioned a captain in the ordnance department and stationed at Washington, D. C.

Milton Rupert was recently elected vice-president and assistant treasurer of the R. D. Nuttall Company, of Pittsburgh, Pa., manufacturers of gears, pinions and trolleys. Mr. Rupert has been with the Nuttall Company since March 4, 1893, holding various positions. In 1903 he was appointed head of the general offices, being directly in touch with all office matters and also manufacturing operations. During the latter part of this period Mr. Rupert was assistant to president and general manager. In his new position, Mr. Rupert will have charge of sales and manufacturing activities.

Ford, Bacon & Davis, Engineers, announce the formation of the Ford, Bacon & Davis Corporation, organized for the purpose of conducting a general contracting business, with particular reference to industrial, public utility and power plants, steam and street railroads, docks, steamship and railway terminal facilities, subways, tunnels, hydro-electric and irrigation projects. In effect this means the continuance in corporate form of construction work which heretofore has been handled by the firm direct. The corporation's headquarters are at 115 Broadway, New York, and it has offices at New Orleans and San Francisco.

Trade Publications

SMOOTH-ON SPECIALTIES.—A new edition of the instruction book published by the Smooth-On Manufacturing Company, Jersey City, N. J., has recently been issued for free distribution. In addition to information regarding the use of Smooth-On iron cement, the booklet contains a list of the standard sizes of Smooth-On coated corrugated gaskets for flanged pipes of sizes from 2 in. to 26 in.

METHODS OF LOADING RADIATORS AND BOILERS.—The American Radiator Company has issued an excellent booklet, describing and illustrating the standard methods of loading and bracing shipments of radiators and boilers, which have been adopted by this company to reduce the liability of damage to a minimum. The instructions contained in the booklet will be of value to agents who frequently handle such shipments.

HYDRATED LIME.—The Hydrated Lime Bureau of the National Lime Manufacturers' Association, Pittsburgh, Pa., has issued a 24-page pamphlet entitled "Watertight Concrete" which is devoted to the discussion of the properties of hydrated lime in making concrete impermeable to water. The pamphlet contains a large amount of information regarding this material and its uses and is illustrated with photographs of structures in which hydrated lime has been used.

PRESSED STEEL TRUCKS.—The Pressed Steel Truck Company of Pittsburgh, Pa., has recently issued folders describing the Atlas two-wheel and four-wheel trucks. These folders are well illustrated and show in some detail the interesting features of construction and describe the various uses to which these trucks may be put. They are constructed with a one-piece frame, without bolts or rivets. They weigh less than wooden trucks and have greater strength. The axles are supported on flexible hardened steel bearings.

AN EXPORT ORDER AND ALLIED TOPICS.—The Foreign Trade Department of the National Association of Manufacturers has recently issued a very interesting 48-page booklet in which it follows with illustrations of letters, invoices, bills of lading, etc., the progress of an export order for paint to a company in New York from a purchaser in Montevideo from the inquiry for information to the shipment and invoicing of the goods. The accompanying story explains each step in the order, and emphasizes such essentials as courtesy in the correspondence, the securing of proper credit data, the translation of letters into the language of the prospect, and the proper methods of securing shipping permits and orders, insurance, drafts, etc. In addition to that information is given concerning the trade mark laws and the consular requirements of foreign countries. Several pages, finally, are devoted to the facilities of the Foreign Trade Department of the Association. The Department, says the booklet, furnishes special reports on trade prospects to individual manufacturers, lists of foreign business houses, translations, credit reports. It also prepares reports on foreign inquiries for American goods and in trade conditions. The offices of the department are at 30 Church Street, New York. Views are shown of these offices and a map in the form of an insert shows the location of the department's foreign correspondents in all countries of the world.

MORE DESTROYERS THAN THERE ARE NOW IN THE WORLD.—E. G. Grace, president of the Bethlehem Steel Corporation, told the 500 guests of the Allentown, Pa., Chamber of Commerce at its banquet on December 20, that the submarine destroyers which the Bethlehem Shipbuilding Corporation will build for the Government are more than all of the destroyers now in the world. Mr. Grace said he regarded the rapid construction of destroyers as the solution of the submarine menace. Mr. Grace said that of the entire ship construction of the United States, war vessels and merchantmen included, the companies of the Bethlehem Steel Corporation are bearing more than half of the burden. The Bethlehem plants now employ 30,000 men as compared with 9,000 five years ago. Charles M. Schwab, who also spoke, said that the payroll of the Bethlehem plants is now \$100,000,000 a year.—*Iron Age*.

Financial and Construction

Railway Financial News

BALTIMORE & OHIO.—The board of directors at a meeting last Wednesday declared semi-annual dividends of 2 per cent on the preferred stock and 2½ per cent on the common stock.

BOSTON & MAINE.—The Minority Stockholders' Protective Association has sent a protest to President Wilson against the enactment of any legislation under which the disbursement to railroad security holders of compensation for the use of railroad property by the federal government would be left optional with the directorates. The resolution in which the protest is embodied also urges the enactment of legislation to provide specifically for a guarantee of direct compensation payment to security holders during the period of federal control.

CANADIAN NORTHERN.—The \$1,250,000 6 per cent one-year gold notes, originally issued by William A. Read & Co., were paid at maturity, January 10, by the Central Trust Company, New York. During the last year the Canadian Northern has reduced its outstanding obligations by \$6,000,000. The Canadian government now owns practically all of its \$100,000,000 capital stock.

MICHIGAN EAST & WEST.—This road, operating between Manistee, Mich., and Marion, has been placed in the hands of Eugene Ford, receiver.

PENNSYLVANIA RAILROAD.—The railroad lines heretofore operated by the Pennsylvania company, embracing the northwest and central systems of the Pennsylvania Lines West of Pittsburgh, having been taken over by the Pennsylvania Railroad Company, will be operated under the title of the Pennsylvania Railroad Company, Western Lines.

PITTSBURGH & WEST VIRGINIA.—The Pittsburgh Terminal Railroad & Coal Company, a subsidiary of the Pittsburgh & West Virginia recently declared two dividends of 3 per cent each on its \$14,000,000 of stock. All of the stock is owned by the railway company. The first dividend, an initial distribution, was paid December 31, 1917. The second dividend is payable next June. The total cash involved in these two dividends amounts to \$840,000, equivalent to the full 6 per cent on the \$9,000,000 Pittsburgh & West Virginia preferred stock and an additional 1 per cent on the \$30,000,000 common. Since the railway company earns sufficient to pay the full 6 per cent on the preferred this distribution of \$840,000 may be said to apply entirely to the common stock. On this basis it is equivalent to \$2.80 per share on the common.

ST. JOSEPH VALLEY.—H. E. Bucklin, president, has been appointed receiver of this line, which extends from Elkhorn, Ind., to Columbia, 70 miles.

Railway Construction

ILLINOIS CENTRAL.—This company is considering the construction of an inbound freight house at East St. Louis, Ill.

MOBILE & OHIO.—This company proposes to repair and remodel the grain elevator at Mobile, Ala., and the wharf adjacent thereto, involving a total expenditure of about \$125,000. The grain elevator, with a capacity of 250,000 bushels, is to be connected to the wharf by a conveyor having a capacity of 15,000 bushels per hour. This building is 56 ft. wide by 106 ft. long and 130 ft. high to the eaves. The machinery to be installed will be entirely electrically driven and of the latest type. A contract has been given to the R. C. Stone Engineering Company at St. Louis, Mo., for the installation of the machinery, and the remodeling of the building will be done by the railroad company. It is expected to have the elevator in operation within six months.

Railway Officers

Executive, Financial, Legal and Accounting

F. E. Richardson, has been appointed auditor of the Tennessee Railway, with office at Oneida, Tenn., succeeding **G. G. Boardman**.

W. B. Cronk, has been appointed vice-president and general manager, of the Carquet & Gulf Shore, with office at Bathurst, N. B.

W. Mosby, transportation assistant of the St. Louis-Southwestern with office at St. Louis, Mo., has been appointed assistant to the president with office as before at St. Louis.

Meade T. Spicer, executive assistant of the Chesapeake & Ohio, has been appointed executive assistant also of the Hocking Valley with office at Richmond, Va., effective January 1.

G. F. Baker, assistant general adjuster of the Chicago, Milwaukee & St. Paul, has been appointed general adjuster with headquarters at Chicago, succeeding **O. D. Aepli**, assigned to other duties, effective January 15.

H. A. Scandrett, who has been appointed assistant director of traffic and commerce counsel of the Union Pacific system with office at Chicago, Ill., as was announced in these columns on



H. A. Scandrett

January 4, was born at Faribault, Minn., on April 8, 1876. He graduated from Shattuck Military Academy in 1894 and graduated from the University of Minnesota in 1898. In January, 1901, he entered the office of the general claim agent of the Union Pacific at Omaha, Neb., being transferred to Kansas City, Mo., as claim adjuster a few months later. In October, 1901, he was made assistant attorney for Kansas and Missouri and in November, 1901, he was appointed assistant general attorney of the Union Pacific and was also a member of the firm of Loomis, Blair & Scandrett at Topeka, Kan. From April, 1908, to January 1, 1911, he was first assistant attorney in the above-named states and on the latter date was appointed assistant interstate commerce attorney of the Union Pacific-Southern Pacific system; from May 1, 1912, to January 1, 1913, he was interstate commerce attorney for the Union Pacific-Southern Pacific companies. Since January 1, 1913, he has been interstate commerce attorney for the Union Pacific system, and on January 1 of this year assumed his new duties as assistant director of traffic and commerce counsel, as aforementioned.

Morton C. Bradley has been appointed assistant controller of the Boston & Maine, with office at Boston, Mass., in charge of statistics, valuation and other special accounting and **Earl A. Ryder** has been appointed real estate agent.

M. R. Waite, who was general solicitor for the Cincinnati, Hamilton & Dayton until that road was merged with the Baltimore & Ohio, has been appointed general attorney for the Baltimore & Ohio for the states of Ohio and Indiana with office at Cincinnati, Ohio.

W. H. Sayer, assistant secretary and assistant treasurer of the Lehigh & Hudson River, has been elected secretary and treasurer, with office at Warwick, N. Y., vice **John Sayer**

resigned, and the office of assistant treasurer and assistant secretary has been abolished.

A. W. Towsley, whose appointment as assistant to the vice-president of operation and construction of the Chicago, Rock Island & Pacific, with office at Chicago, Ill., was mentioned in these columns on January 11, was born at Whitewater, Wis. He graduated from the University of Wisconsin and in the fall of 1878 entered the service of the Chicago, Milwaukee & St. Paul, serving consecutively as telegraph operator, agent, train despatcher and chief train despatcher. Since leaving the St. Paul he has been with the Great Northern as chief train despatcher and trainmaster; the Norfolk & Western, as chief train despatcher, trainmaster, superintendent of transportation and assistant to the vice-president and general manager; the Atchison, Topeka & Santa Fe, as assistant to the vice-president and assistant to the superintendent of transportation; the Seaboard Air Line, as superintendent, assistant to the vice-president and general manager and assistant to the president; the Chicago & North Western, as superintendent and special representative for the vice-president and president; and the Ann Arbor, as vice-president and general manager. On September 1, 1917, he entered the office of the vice-president of the Chicago, Rock Island & Pacific as special representative, which position he held at the time of his appointment, as noted above. Mr. Towsley will give special attention to transportation matters.

Operating

E. K. Longan has been appointed superintendent, of the Southwestern Railway with office at Henrietta, Texas.

J. E. Thayer, has been appointed chief despatcher and trainmaster, of the Georgia Northern, with office at Moultrie, Ga.

H. E. Rodenfels has been appointed general agent of the operating and traffic departments of the Chesapeake & Ohio with office at Columbus, Ohio.

J. D. Walker has been appointed acting superintendent of transportation of the Colorado & Southern with office at Denver, Colo., succeeding **A. Pardoe**.

J. W. Allen has been appointed acting superintendent of the Puget Sound division, of the Northern Pacific with headquarters at Seattle, Wash., vice **J. J. McCullough**, assigned to other duties.

Charles D. Ward, general agent of the operating department of the Erie, with office at Chicago, has been appointed general agent of New York Terminal division, with office at Jersey City, N. J.

H. D. Earle has been appointed superintendent of the Northern division of the St. Louis-Southwestern with office at Pine Bluff, Ark., succeeding **M. J. Kennelly**, resigned, effective December 13.

J. A. Shepherd has been appointed superintendent of the Green River division of the Denver & Rio Grande, with headquarters at Helper, Utah, succeeding **R. C. Ten Eyck**, transferred; effective January 1.

C. O. Bradshaw, formerly a trainmaster on the Great Northern, was appointed superintendent of the Illinois and the Racine & Southwestern divisions of the Chicago, Milwaukee & St. Paul with headquarters at Savanna, Ill., succeeding **G. R. Morrison**, assigned to other duties, effective January 15.

W. O. Franklin, who has been appointed superintendent of the Pocahontas division of the Norfolk & Western, with headquarters at Bluefield, W. Va., as has already been announced in these columns, was born on September 25, 1874 at Martinsville, Va., and received his education in the Martinsville High School. He began railway work early in 1894, with the Norfolk & Western and served first, for two years in the track department, and then for four years as freight brakeman. He was then consecutively freight conductor for four years, assistant trainmaster on the Scioto division for four years and later served for five years as trainmaster on the Scioto division. He was then transferred as trainmaster to the Pocahontas division, which position he held until his recent promotion to superintendent of the same road as above noted.

Traffic

J. H. Gregory has been appointed commercial agent of the Chicago, Burlington & Quincy with office at St. Joseph, Mo.

George J. Allen has been appointed commercial agent of the Georgia & Florida and the Augusta Southern, with office at Nashville, Tenn.

E. M. Hess, has been appointed commercial agent of the New York Central, with office at Baltimore, Md., vice **N. D. Hoke** promoted.

C. J. Piper, has been appointed commercial agent of the Canadian Northern, with office at Minneapolis, Minn., vice **J. T. Whitlaw** resigned.

J. W. Brown, traveling freight agent of the Baltimore & Ohio with headquarters at Dayton, Ohio, has been appointed general agent at Camp Sherman, Ohio.

R. R. Williams has been appointed Canadian agent, passenger and freight, of the Buffalo, Rochester & Pittsburgh, with headquarters at Toronto, Ont., vice **P. A. Bolopue**.

W. T. Grier, general traffic manager of the Lehigh Valley, with headquarters at New York, having resigned to enter other business, the position of general traffic manager has been abolished.

H. A. Cochran, general coal freight agent of the Baltimore & Ohio, with office at Baltimore, Md., has been granted a temporary leave of absence in order that he may assist the United States Fuel Administration at Washington.

F. K. Woodruff, manager of mail traffic of the Kansas City Southern, with office at Kansas City, Mo., has been appointed director of development, with the same headquarters, in charge of the industrial, immigration and agricultural departments. The position of manager of mail traffic has been abolished and the duties of that position have been assumed by **F. D. Downie**, general baggage agent, Kansas City, Mo., effective January 1.

Engineering and Rolling Stock

B. J. Peasley has been appointed mechanical superintendent of the St. Louis-Southwestern of Texas with office at Tyler, Tex.

A. H. Hackfield has been appointed master mechanic and roadmaster, of the Southwestern Railway with office at Archer City, Texas.

H. T. Nowell, assistant superintendent of the Billerica (Mass.) shops of the Boston & Maine, has resigned to engage in other business.

Ernest S. Draper, has been appointed engineer of structures of the Boston & Albany, with office at Boston, Mass., vice **A. D. Case**, who has resigned to become structural engineer, in charge of the structural division of the American International Shipbuilding Corporation.

M. F. Smith, division master mechanic on the La Crosse and Wisconsin Valley division of the Chicago, Milwaukee & St. Paul, with office at Milwaukee shops, was promoted to district master mechanic, with the same headquarters; **William Joost**, roundhouse foreman at Milwaukee shops, was promoted to master mechanic of the Milwaukee terminal and the Chicago and Milwaukee division, with office at Milwaukee shops, Wis., effective January 10; **A. J. Klumb**, assistant district master mechanic, with office at Milwaukee shops, has been appointed division master mechanic on the Prairie du Chien and Mineral Point division, with office at Madison, Wis.; **W. H. Hart**, assistant district master mechanic on the Superior division, with office at Green Bay, Wis., was promoted to division master mechanic with the same headquarters; **J. E. Bjorkholm**, traveling engineer, with headquarters at Milwaukee, Wis., was appointed division master mechanic of the Chicago terminal, with office at Chicago, Ill.; **J. H. Phillips**, traveling engineer, was appointed division master mechanic on the Northern division, with office at Horicon, Wis.; **John Turney**, assistant district master mechanic of the Twin City terminals, with office at Minneapolis, Minn., was appointed division master mechanic of the same division; **H. G. Dimmitt**, district master mechanic of the River and Iowa & Minnesota divisions, was

appointed division master mechanic of the same divisions; **P. L. Mullen**, roundhouse foreman at Sioux City, Iowa, was appointed division master mechanic of the Southern Minnesota division, with office at Austin, Minn.; **G. P. Hodges**, general car and locomotive foreman, with headquarters at Mason City, Iowa, was appointed division master mechanic of the Iowa and Dakota division, with the same headquarters; **Joseph Bodenberger**, traveling engineer, with headquarters at Aberdeen, S. D., was appointed division master mechanic of the Hastings and Dakota division, with the same headquarters; **G. P. Kempf**, district master mechanic on the Dubuque division, with office at Dubuque, Iowa, was appointed division master mechanic of the same division; **E. W. Harvey** was appointed division master mechanic of the Illinois and Racine & Southwestern division and the Rochelle & Southern line, with office at Savanna, Ill.; **F. P. Miller**, general car and locomotive foreman at Marion, Iowa, was appointed division master mechanic of the Iowa division, with the same headquarters; **S. J. O'Gar**, general car and locomotive foreman, with headquarters at Ottumwa Junction, Iowa, was appointed division master mechanic of the Kansas City division, with the same headquarters; **G. J. Messer**, general car and locomotive foreman, with headquarters at Minneapolis, Minn., was appointed division master mechanic of the Sioux City and Dakota division, with headquarters at Sioux City, Iowa; **T. S. Manchester**, general foreman, with headquarters at Aberdeen, S. D., was appointed traveling engineer, with the same headquarters, and **Joseph Opia**, general foreman, with headquarters at Austin, Minn., was appointed general inspector, with the same headquarters.

Railway Officers in Military Service

F. G. Robbins, general superintendent of the Erie at Chicago and recently commissioned major in the Engineer Officers Reserve Corps, has been called into active service and has been assigned to Washington, D. C.

James T. Phillips, auditor of disbursements of the Oahu Railway & Land Company, with headquarters at Honolulu, T. H., has been called to active military service with the rank of captain in the quartermaster department, and assigned to duty as assistant to the department quartermaster in Honolulu. Mr. Phillips went to Honolulu in March, 1916, to take charge of the disbursements and store department of the Oahu Railway; he previously had served for about 15 years in the operating and accounting departments of the Rock Island, the Chicago, Burlington & Quincy, the Atchison, Topeka & Santa Fe and the Southern Pacific.

Obituary

M. L. Crowell, formerly treasurer of the Toledo, St. Louis & Western, with office at Toledo, Ohio, died on January 7, at the age of 73.

Archibald J. Wykes, treasurer of the Illinois Central, with headquarters at New York, died on January 14, at his home in Glen Ridge, N. J., at the age of 46. Mr. Wykes entered the service of the Illinois Central in March, 1897, as a clerk in the executive office, at New York. In February, 1913, he was appointed assistant treasurer and the following May was promoted to treasurer.

Lee Howell, general freight agent of the St. Louis and Henderson divisions of the Louisville & Nashville, with headquarters at Evansville, Ind., died recently. He was born on May 18, 1844, and began railway work in 1872, as a contracting agent on the Louisville & Nashville. He subsequently served as general agent at Evansville, Ind., then as division freight agent of the Henderson division and since November 1882 was general freight agent of the same road. From July 1 to December, 1883, in addition to the duties of general freight agent he served as superintendent of the St. Louis division.

THE TOTAL EXPORTS TO U. S. FROM ENGLAND IN 1917 had an aggregate value of \$262,891,937, against \$305,414,269 in 1916, according to a cable from the American Consul General at London under date of January 2.